2 HN 3

OFFICE OF POPULATION CENSUSES AND SURVEYS
SOCIAL SURVEY DIVISION

Infant feeding 1975: attitudes and practice in England and Wales

A survey carried out on behalf of the
Department of Health and Social Security

Jean Martin

HAMPTON
ARY
ERSITY

HMSO £7 net

SOUTHAMPTON UNIVERSITY LIBRARY

Date of Return

16. OCT 87

04.1_ 1993

SOUTHAMPTON
UNIVERSITY LIBRARY

BOOK NUMBER	78-031094
CLASS MARK	q HN 385.5
	(in box)

78031094

OFFICE OF POPULATION CENSUSES AND SURVEYS
SOCIAL SURVEY DIVISION

Infant feeding 1975: attitudes and practice in England and Wales

A survey carried out on behalf of the
Department of Health and Social Security

Jean Martin

London: Her Majesty's Stationery Office

© Crown copyright 1978
First published 1978

ISBN 0 11 700824 9

SOUTHAMPTON UNIVERSITY LIBRARY

Acknowledgements

A survey of this size and complexity depends for its success on the efforts of many people whom it is impossible to acknowledge individually. Although only the research worker's name appears on the Report, the design and execution of a survey is the work of a team, and I would like to thank the members of Sampling, Field and Primary Analysis Branches of Social Survey Division and Survey Branch of Computer Division who contributed towards the survey. I am particularly indebted to Janet Monk who assisted me throughout.

I am grateful to all the members of the DHSS/OPCS Working Party for their valuable advice and constructive criticism at various stages of the project, and in particular to Dr S J Darke and Professor T E Oppé who contributed so much to the survey.

Finally, I should like to thank the interviewers for achieving such a high response rate, and the mothers who gave up their time to help us, despite the demands of their new babies.

Note to readers

1. Percentages have been rounded to the nearest whole number and as a result may add to between 99 and 101. The total is still shown as 100. Percentages of less than one per cent are shown as 0; cells with no cases are indicated by –.

2. Conventions in the use of the percentage sign have been adopted to facilitate presentation of the results. Where the sign is at the head of a column and the total is shown as 100 per cent, the figures sum to 100±1, for example Table 5.1, or that cumulative percentages are shown, for example Table 9.1.

   A percentage sign at the side of an individual figure signifies that this proportion of the people had the attribute being discussed and that the complementary proportion (not shown on the table) did not. In the more complex tables both side and column headings define the group under discussion, the percentage indicating the proportion of the group who have a particular attribute. For example, Table 3.2 (first row, first column) shows that of 116 mothers in social class I, 77 per cent breast fed (23 per cent did not). The first row of the second column shows that of 56 mothers of first babies in social class I, 87 per cent breast fed (and 13 per cent did not).

3. Details of significance tests are not given in the report, but they have been carried out where appropriate. Differences referred to in the text are significant at the .05 level.

Contents

page

List of tables VI
1. Purpose and methods of enquiry 1
2. The main variables used in the analysis and the composition of the sample 7
3. Incidence and prevalence of breast feeding at various stages of the first year of life 13
4. Mothers with previous experience of feeding a baby 25
5. Choice of method of feeding among mothers of first babies 29
6. The role of the health professional in relation to the mother's choice of method of feeding 34
7. Influence of family and friends on choice of method of feeding 42
8. Attitudes to breast and bottle feeding 48
9. Predicting duration of breast feeding 58
10. Reasons given by mothers for stopping breast feeding 66
11. Events surrounding birth, starting breast feeding and failure in the first two weeks 70
12. Breast feeding in hospital 81
13. Difficulties in breast feeding 91
14. Patterns of infant feeding and the introduction of solid food 99
15. Conclusions. 109

Appendix I Sampling report 113
Appendix II The survey documents 118
Appendix III The maximum likelihood procedure used in the analysis and the results obtained 152
Appendix IV Antenatal care 164
Appendix V Events surrounding birth and hospital practices 166
Appendix VI Infant feeding at home 170

Tables

Table		page
1.1	Response rates and non-response at the main stage (6 weeks)	5
1.2	Response rates at the follow-up stage (4 months)	5
2.1	Distribution of the sample by birth order	7
2.2	Distribution of the sample by social class, for first and later births	8
2.3	Distribution of the sample by age mother finished full-time education for first and later births	8
2.4	Distribution of social class by age at which mother finished full-time education	9
2.5	Age distribution of mothers, for first and later births	10
2.6	Age of mothers of first babies by social class	10
2.7	Age of mothers of first babies by age of finishing full-time education	10
2.8	Distribution of the sample by region for first and later births	11
2.9	Distribution of social class by region	12
2.10	Distribution of age mother finished full-time education by region	12
3.1	Incidence of breast feeding by birth order	13
3.2	Incidence of breast feeding by social class and whether first or later birth	14
3.3	Incidence of breast feeding by age mother finished full-time education and whether first or later birth	14
3.4	Incidence of breast feeding by mother's age (first births only)	14
3.5	Incidence of breast feeding by region and whether first or later birth	15
3.6	Estimated incidence of breast feeding for the total sample	16
3.7	Estimated incidence of breast feeding by whether the baby was a first birth or not, standardised for education, social class and region	17
3.8	Estimated incidence of breast feeding by age at which mother finished full-time education, standardised for social class, region and whether first or later birth	17
3.9	Estimated incidence of breast feeding by social class, standardised for age at which mother finished full-time education, region and whether first or later birth	17
3.10	Estimated incidence of breast feeding by region, standardised for age at which mother finished full-time education, social class and whether first or later birth	18

Table		page
3.11	Prevalence of breast feeding at ages up to 1 year	19
3.12	Prevalence of breast feeding at 6 weeks by whether the baby was a first birth or not, standardised for education, social class and region	20
3.13	Prevalence of breast feeding at 6 weeks by age at which mother finished full-time education, standardised for social class, region and whether first or later birth	21
3.14	Prevalence of breast feeding at 6 weeks by social class, standardised for mother's education, region and whether first or later birth	21
3.15	Prevalence of breast feeding at 6 weeks by region, standardised for mother's education, social class and whether first or later birth	21
3.16	Incidence of breast feeding and prevalence at 6 weeks according to mothers' working status at 6 weeks	22
3.17	Incidence of breast feeding and prevalence at 4 months according to mothers' working status at 4 months	23
4.1	Use of same or different method of feeding by mothers of more than one child	26
4.2	Proportion of first children and sampled babies who were breast fed by number of children mother had fed	26
4.3	Proportion of second children breast fed by duration of breast feeding first child	27
5.1	Reasons given by mothers of first babies for choosing to breast feed	30
5.2	Reasons given by mothers of first babies for choosing to bottle feed	31
6.1	Whether mothers were asked about their plans or had discussions about feeding by type of antenatal care	35
6.2	Proportion of mothers who planned to breast feed, by whether they had been asked about their plans or discussed feeding the baby	36
6.3	Person with whom mothers discussed feeding by place of discussion	37
6.4	Mothers' preceptions of preference of doctors and midwives for breast and bottle feeding	37
6.5	Proportion of mothers who planned to breast feed, by summarised views of staff in antenatal clinics	38
6.6	Proportion of mothers who planned to breast feed, by attendance at antenatal classes	39
6.7	Proportion of mothers who planned to breast feed, by views reported by mothers of staff running antenatal classes	40
6.8	Proportion of mothers who planned to breast feed, by summarised perceived views of health professionals	41
7.1	Husbands' reported views on planned method of feeding	42

Table		page
7.2	Own mother's reported views on planned method of feeding	43
7.3	Reported views of other members of family or friends	44
7.4	Feeding method used by friends	44
7.5	Method by which the mother herself was fed	45
7.6	Estimated proportion of mothers planning to breast feed by husband's views, independent of other variables	46
7.7	Estimated proportion of mothers planning to breast feed by own mother's views, independent of other variables	46
7.8	Estimated proportion of mothers planning to breast feed by other people's views, independent of other variables	46
7.9	Estimated proportion of mothers planning to breast feed by feeding method used by friends, independent of other variables	46
7.10	Mothers' statements about their reactions to watching breast feeding	47
8.1	Mean factor scores of mothers of first babies according to planned method of feeding	50
8.2	Mean factor scores of mothers of first babies according to method of feeding at 6 weeks	50
8.3	Mean scores on factor I, 'Distaste for breast feeding', by age mother finished full-time education and planned method of feeding	51
8.4	Mean scores on factor II, 'Breast feeding is best for babies', by age mother finished full-time education and planned method of feeding	52
8.5	Proportion of mothers who would be embarrassed to breast feed in various situations and their embarrassment scores	53
8.6	Embarrassment scores by planned method of feeding	54
8.7	Intercorrelations among predictors of choice of method of feeding	55
9.1	Proportion of mothers who breast fed initially and who were still breast feeding at ages up to 6 months, by whether first or later birth	59
9.2	Proportion of mothers who breast fed initially who were still breast feeding at times up to 6 months by social class	59
9.3	Proportion of mothers who breast fed initially who were still breast feeding at times up to 6 months by age mother finished fulltime education	60
9.4	Proportion of mothers who breast fed initially who were still breast feeding at times up to 6 months by region	60
9.5	Estimated proportion of mothers who breast fed at all who would be expected to be breast feeding at 6 weeks by social class and education	62
9.6	Estimated proportion of mothers who breast fed at all who would be expected to be breast feeding at 4 months by social class and education	62

Table		page
9.7	Effect of previous experience on duration of breast feeding sampled baby	63
9.8	Estimated proportion of mothers who breast fed at all who would be expected to be breast feeding at 6 weeks	64
9.9	Estimated proportions of mothers who breast fed at all who would be expected to be breast feeding at 4 months	65
10.1	All reasons given by mothers for stopping breast feeding	67
10.2	Main reason given by mothers for stopping breast feeding	68
10.3	Main reason given by mothers for stopping breast feeding in the first 6 weeks	69
11.1	Length of time till baby first put to the breast	71
11.2	Length of time till mothers who breast fed first held their babies	71
11.3	Proportion of mothers stopping breast feeding in the first week, and the first 2 weeks, by how soon the baby was put to the breast	72
11.4	Proportion of mothers stopping breast feeding within 2 weeks for 3 different reasons, by how soon the baby was first breast fed	72
11.5	Proportion of mothers reporting difficulties in sucking at the first feed by how soon the baby was first breast fed	73
11.6	The onset and progress of labour of mothers who breast fed at all	75
11.7	Analgesia/anaesthesia during labour for mothers who breast fed at all	76
11.8	Type of delivery for mothers who breast fed at all	76
11.9	Admission to special care baby unit within 4 hours of birth for babies who were breast fed at all	76
11.10	Estimated proportions of mothers who would be expected to breast feed within 8 hours of birth by aspects of labour and delivery	77
11.11	Proportion of mothers who stopped breast feeding within 2 weeks, by whether baby went to special care unit within 4 hours and how soon it was first breast fed	78
11.12	Proportion of mothers who stopped breast feeding within 2 weeks by babies' birth weight (as reported by mothers)	80
12.1	Length of stay in hospital for mothers of first and later babies who breast fed at all	81
12.2	Proportion of mothers stopping breast feeding within 2 weeks by length of stay in hospital and whether first or later birth	82
12.3	Method of feeding on discharge from hospital by whether first or later birth	83
12.4	Proportion of mothers who stopped breast feeding within 2 weeks by type of feeding schedule	84

Table		page
12.5	Proportion of mothers who stopped breast feeding within 2 weeks by type of feeding schedule and previous experience of breast feeding	84
12.6	Proportion of mothers who stopped breast feeding within 2 weeks by type of feeding schedule and length of stay in hospital (more than 12 hours)	84
12.7	Proportion of mothers who were breast feeding whose babies were with them for different parts of each day of the first week	85
12.8	Proportion of breast fed babies given bottles of milk while in hospital on each day of the first week	87
12.9	Satisfaction with help and advice about feeding received in hospital	88
12.10	Attitudes of hospital nurses and midwives to methods of feeding as perceived by mothers who breast fed	89
12.11	Attitudes of hospital doctors to methods of feeding as perceived by mothers who breast fed	89
13.1	Extra help at home received by mothers who breast fed at home	92
13.2	Proportion of mothers who stopped breast feeding within 2 weeks in relation to difficulty in getting the baby to take the breast	92
13.3	Proportion of mothers who stopped breast feeding within 2 weeks in relation to painfully engorged breasts	93
13.4	Proportion of mothers who stopped breast feeding within 2 weeks in relation to the occurrence of sore nipples	94
13.5	Proportion of mothers who stopped breast feeding within 2 weeks by whether stitches caused problems with breast feeding	95
14.1	Bottles given to breast fed babies at 6 weeks and 4 months	99
14.2	Proportion of babies who had been given solid food by ages up to 4 months	100
14.3	Proportion of babies who had been given solid food by 6 weeks by method of feeding at 6 weeks, for first and later births	101
14.4	First type of solid food given to babies by age of starting solids	102
14.5	Reasons given by mothers for introducing solid food, by age of starting solids	103
14.6	Proportion of mothers advised to start solids by health professionals, by age at starting solids	104
14.7	Number of milk feeds during 24 hours by method of feeding at 6 weeks	105
14.8	Number of occasions on which solid food was given during 24 hours by method of feeding at 6 weeks	106
14.9	Number of milk feeds during 24 hours at 4 months	106
14.10	Number of occasions on which solid food was given during 24 hours by method of feeding at 4 months	107

Appendix Tables

page

I.1 Sampling procedure 114
I.2 Response rates and non-response at the main stage 115
I.3 Reweighting factors for the follow-up stage 116
I.4 Response rates at the follow-up stage (4 months) 116

III.1 Incidence of breast feeding for first babies 153
III.2 Incidence of breast feeding for whole sample 154
III.3 Prevalence of breast feeding at 6 weeks 155
III.4 Proportion of mothers of first babies who planned to breast feed (social and demographic characteristics) 156
III.5 Proportion of mothers of first babies who planned to breast feed (influence of family and friends). 157
III.6 Proportion of breast feeding mothers still breast feeding at 6 weeks 158
III.7 Proportion of breast feeding mothers still breast feeding at 4 months 159
III.8 Proportion of breast feeding mothers still breast feeding at 6 weeks (taking account of previous experience) 160
III.9 Proportion of breast feeding mothers still breast feeding at 4 months (taking account of previous experience) 161
III.10 Proportion of mothers first breast feeding within 8 hours by events of labour and delivery 162
III.11 Proportion of mothers who stopped breast feeding within 2 weeks by events of labour and delivery (excluding Caesarean births and admission to SCBU) 163

IV.1 Attendance at antenatal clinics 164
IV.2 Whether mothers were asked about their plans or had discussions about feeding 164
IV.3 Home visits by midwives and health visitors 164
IV.4 Attendance at antenatal classes 165
IV.5 Whether husband attended antenatal classes 165
IV.6 Whether classes included talk or discussions on feeding 165

V.1 Onset and progress of labour 166
V.2 Analgesia/anasethesia during labour 166
V.3 Type of delivery 166
V.4 Whether husband was present during labour and at delivery 166
V.5 Whether mother had stiches 166
V.6 Birthweight by social class 167
V.7 How soon mothers held the baby 167
V.8 Reasons given by mothers for baby requiring special care 167
V.9 Length of time babies were in special care units 168
V.10 Place of birth by whether first or later birth 168
V.11 Length of stay in hospital by whether first or later birth 168
V.12 Extent to which babies were with their mothers during the first week 169
V.13 Whether mothers were taught how to sterilise bottles and make up a bottle of milk 169
V.14 Suppression of lactation reported by mothers bottle feeding on discharge from hospital 169
V.15 Whether mothers were given free samples of milk and gift packs on leaving hospital 169

Appendix Tables

page

VI.1 Proportion of mothers visited by a midwife by length of stay in hospital 170
VI.2 How soon midwife visited by length of stay in hospital 170
VI.3 Frequency of midwife's visits in the first 10 days 171
VI.4 Number of visits by midwife after the first 10 days 171
VI.5 Age of baby when health visitor first visited 171
VI.6 Number of visits made by health visitor in the first 6 weeks 171
VI.7 Extra help at home 171
VI.8 Number of visits made to a baby clinic in first 6 weeks by whether first or later birth 171
VI.9 Number of times baby had been weighed in first 6 weeks by whether first or later birth 172
VI.10 Where baby was weighed on most recent occasion 172
VI.11 What baby was wearing when last weighed 172
VI.12 Use of contraception at 4 months by method of feeding at 4 months 173
VI.13 Length of time after birth before mothers started taking the Pill. 173

Chapter 1 Purpose and method of enquiry

1.1 Background

In 1974 the Departement of Health and Social Security (DHSS) published the report of a Working Party of the Panel of Child Nutrition, Committee on Medical Aspects of Food Policy, entitled 'Present-Day Practice in Infant Feeding'[1]. The members of the working party reviewed information available about current practices in infant feeding, and medical and nutritional evidence about the effects of these practices on the well-being of infants. Their main conclusion was that the best food for babies in the early months of life is human milk, and thus they recommended that mothers should be encouraged to breast feed their babies, at least for the first two weeks of life, but preferably for four to six months. They were also of the opinion that, for most babies, milk alone is adequate for normal growth and development during the first four to six months of life and therefore recommended that mothers be strongly discouraged from giving their babies cereals or other solid foods before the age of four months. The DHSS has adopted the main recommendations of the report as official policy.

Results from studies carried out in previous years in different parts of the country which were reviewed by the Working Party indicated a general decline in the incidence of breast feeding, at least until the early 1970s, and it appeared that at that time the majority of mothers made no attempt to breast feed. In addition, most mothers introduced solid food into the infant's diet before the age of three months. Thus, from such information as was available, it appeared that infant feeding practice in general did not conform to the recommendations of the Working Party.

In writing the report the Working Party became aware of the lack of up to date information about infant feeding practices on a national scale, and recommended that "present methods of collecting statistics.... be examined in order to evaluate (their) use in the provision of some means for a continuous review of patterns of infant feeding". The Hospital Inpatient Enquiry and the General Household Survey were investigated as possible sources of such statistics, but neither proved suitable for the purpose.

Accordingly the Panel of Child Nutrition recommended to its parent Committee on Medical Aspects of Food Policy that DHSS should request the Office of Population Censuses and Surveys (OPCS) to undertake a survey on a national scale. Such a survey would aim to provide, firstly, statistics that would form a baseline for the continuous review which would monitor the success of infant feeding policy, and secondly, information about the reasons mothers choose to breast feed or to bottle feed and factors affecting the duration of breast feeding which would aid DHSS in the implementation of its policy to promote breast feeding. From the outset the possibility was envisaged that a further enquiry after an interval of perhaps five years would provide the 'continuous review' of infant feeding practice recommended by the Working Party.

---

[1] 'Present-Day Practice in Infant Feeding' *Report on Health and Social Subjects 9. DHSS 1974*

1.2 Aims of the survey

These can be summarised as follows:

a) to establish the incidence and prevalence of breast feeding over the first year of life

b) to describe current practices in infant feeding, in particular the age at which solid food is introduced

c) to investigate factors which may explain why, in recent years, so many women have decided not to breast feed

d) to investigate the reasons many women who start breast feeding change to bottle feeding after a short time.

1.3 Definitions used in the survey

Throughout the report we have defined as *breast fed initially* all babies whose mothers put them to the breast at all, even if this were only on one occasion.

Incidence of breast feeding is the proportion of the sampled babies who were breast fed initially.

Included in the category *still breast fed* are all babies whose mothers were breast feeding at all at a specified age, even if they were also bottle fed.

The term *completely breast fed* is defined in Chapter 14, but has not been used in the main analysis because babies changed from being *completely breast fed* to *still breast fed* and back again, depending on whether the mother was giving artificial milk in addition to breast feeding at a particular point in time.

Prevalence of breast feeding refers to the proportion of all sampled babies still being breast fed at specified ages, even if the babies were bottle fed as well as breast fed.

Duration of breast feeding is the length of time for which breast feeding continued at all, regardless of when bottles or other foods were introduced.

1.4 Design of the survey

To achieve the aims of the survey a decision was made to draw a sample of births, and to interview the mothers of the babies as soon after the birth as practicable for three reasons:

a) to estimate accurately the proportion of babies who were breast fed for very short periods of time

b) to obtain accurate information about the circumstances in which mothers stopped breast feeding in the first few weeks

c) to obtain information about the antenatal period, in particular about factors affecting mothers' choice of feeding, which would not be too distorted by memory or subsequent events.

Because of the time required to identify new births, select the sample and issue the sample to the interviewers, the earliest time at which interviews could take place was when the babies were in the sixth week of life.

To estimate the prevalence of breast feeding at different stages during the first year of life, and because the report 'Present-Day Practice in Infant Feeding' recommended that mothers should breast feed their babies for between four and six months but should not start to give solid food before the age of four months, some mothers were interviewed a second time when their babies were about four months old. This provided an opportunity to find out whether the infant was still breast fed, at what age between six weeks and four months breast feeding stopped, and at what age solids were first introduced into the infant's diet.

In addition, to estimate the prevalence of breast feeding during the remainder of the first year of life, a postal questionnaire was sent at six months to all mothers who were still breast feeding at four months, and again at one year to those who indicated in their reply to the first postal questionnaire that they were still breast feeding at six months.

One of the main aims of the survey was to investigate the reasons given by mothers for their choice of feeding method. From exploratory work it was apparent that most mothers made a choice of feeding method for their first child and then used the same method for subsequent children; those who changed methods were generally influenced by their experience of feeding the first child. Thus the decision made by mothers having their first baby appeared to be particularly important. Consequently sufficient mothers of first babies were required in the sample to carry out detailed analyses on this group alone. In a random sample of births 43 per cent would be expected to be first births at the time of the survey. In order to have sufficient first births without increasing the total sample size, and hence the cost of the survey, first births were oversampled by a factor of 1.76, and constituted approximately 60 per cent of the sample.

1.5 The sample

A detailed account of the sample design and sampling procedure is given in Appendix I.

A sample of 2304 birth forms was drawn by the Vital Statistics Branch of the Population Statistics Division of OPCS. The birth form is completed by the Registrar of Births and Deaths when the baby's birth is registered, and the information on it is used to prepare the entry on the birth register and for statistical purposes.

All births should be registered during the six weeks following the birth. If the sample had been based on births registered within six weeks of their occurrence, interviews could not have been carried out until the babies were eight weeks old. However 91 per cent of births are registered within the first four weeks. Because first interviews were to be made when the babies were still six weeks old, a sample was drawn of births registered within the first four weeks. The nine per cent of births which are registered after this time could not be included in the sample.

A two stage sample design was used. The primary sampling units were 100 registration sub-districts or groups of sub-districts in England and Wales. A total of 2304 birth forms were then selected within these areas, first births being oversampled by a factor of 1.76.

The sample of mothers who were to be re-interviewed when their babies were about four months old was drawn from the 2086 mothers who agreed at the first interview to be included in any further study. Half the original 100 areas were selected for the follow-up study, and within the selected areas all the mothers who had been breast feeding at the time of the first interview, (ie half the total) and one third of the other mothers, (ie one sixth of the total) were chosen for the follow-up sample. A total of 535 mothers was selected.

For the postal follow-up at six months and at a year, all mothers who were breast feeding at the preceding stage were sent a questionnaire. Thus a postal questionnaire was sent to 154 mothers when their babies were aged six months and to 97 mothers when their babies were a year old.

It should be noted that the sample is of babies rather than of mothers. However, there is a one to one correspondence between mothers and babies except in the case of multiple births, which comprised two per cent of the sample. In this report, to avoid cumbersome phraseology, statements are made about the mothers as well as about the babies, although the statements refer to the mothers of the sampled babies rather than to a sample of mothers.

The sample was designed to be representative of births occurring in England and Wales between 26 September and 23 October 1975. Checks on the validity of the sample were carried out and are described in Appendix I. A higher proportion of babies with fathers in Social Class V and with no father entered on the registration form occurred among non-respondents than among respondents. However, the number of such cases was small and the overall response rate was high (see section 1.7), consequently the bias introduced by these differences did not significantly affect the validity of the sample.

Checks carried out on the follow-up sample did not reveal any significant differences between its composition and that of the main stage sample which might affect the validity of results obtained at the follow-up stage.

1.6 Procedure

To test the design of the survey, the sampling and contacting procedures and the questionnaires, a pilot study was carried out in June 1975. Results from this study enabled the proportion of babies breast fed at different ages to be calculated and hence more accurate estimates could be made of the sample size needed at the main stage, and of the proportions of the different categories of mothers that would need to be followed up at four months.

Interviews with mothers included in the main stage of the survey were carried out in November and December 1975; the follow-up interviews took place in February 1976. The postal questionnaires were sent out in April and October 1976.

To ensure that the first interviews were carried out when the babies were as nearly as possible of the same age, four samples were drawn of babies born in four consecutive weeks. The interviews could then be spread over four weeks, each of the four samples being interviewed six weeks after the births occurred. However, since the number of births in each area during each of the four weeks could not be predicted, quota sizes fluctuated from week to week and it was not always possible for an interviewer to complete all her interviews when the babies were in their sixth week. Two days were allowed on either side of the sixth week when interviews could be carried out if necessary. Only 10 per cent of the interviews were in fact carried out on these additional days.

Before the interviewers contacted the mothers we sent each of the selected mothers a letter telling them about the survey and inviting their co-operation. A copy of this letter is shown in Appendix II. Interviewers first contacted mothers by telephone if they could trace a telephone number, or by a letter suggesting a possible time for interview. In this way most interviews took place by appointment, reducing the number of unproductive visits interviewers made.

Interviews lasted on average seventy minutes. This proved to be an acceptable length of time for a topic of such universal interest to mothers. A copy of the questionnaire used is included in Appendix II.

The daily progress in growth and development of babies is more obvious at the age of six weeks than at four months. Although a decision was made to carry out the first interviews when, as far as possible, all the babies were in their sixth week of life, a greater variation in the babies' ages was considered acceptable when the follow-up interviews were carried out. Mothers were interviewed when their babies were aged sixteen but less than nineteen weeks. This allowed all interviews to be carried out during a two week period. Since the sample for the follow-up stage could be selected well in advance of the field period, interviewers had plenty of time to ensure that appointments with the mothers were made when the babies were of the appropriate age.

The follow-up interviews were quite short, usually lasting between fifteen and twenty minutes. A copy of the questionnaire used at the follow-up stage is shown in Appendix II.

1.7 Response

At the main stage a sample of 2304 babies was selected and the mothers approached for interview. The overall response rate was 91 per cent. Table 1.1 summarises the losses due to the various sources of non-response.

Table 1.1 Response rates and non-response at the main stage (6 weeks)

	No.	%
Set sample	2304	100
Total non-response:	194	8
ineligible for interview	56	2
refusal	63	3
non-contact	75	3
Total interviews	2110	92
Interviews withdrawn	7	0
Total acceptable interviews	2103	91

Mothers were ineligible for interview for one of three reasons:

i) the baby had died

ii) mother and baby were permanently separated (eg the baby was being fostered or adopted)

iii) the baby had been in hospital since birth.

'Non-contact' included cases where the interviewer was unable to contact the mother while the baby was in the appropriate age range, as well as where the mother had moved to an unknown address or to an address where she could not be interviewed.

'Refusal' included mothers who could not be interviewed when the baby was in the appropriate age range although contact had been made, as well as mothers who did not agree to take part in the survey.

Seven interviews were withdrawn because the mothers' command of English was inadequate for the information given to be used.

At the follow-up stage 535 mothers were approached for interview and a response rate of 95 per cent was obtained. Details of the non-response are given in Table 1.2

Table 1.2 Response rates at the follow-up stage (4 months)

	No.	%
Set sample	535	100
Total non-response:	26	5
refusal	7	1
non-contact	19	3
Total interviews	509	95

154 mothers were still breast feeding at the time of the second interview. They were sent a postal questionnaire when their babies were six months old; 151 replied, a response of 98 per cent.

According to their answers on the first postal questionnaire, 97 mothers were still breast feeding at six months. They were sent a further questionnaire when their babies were a year old; 92 replied, a response of 95 per cent.

1.8 Reweighting the results

First births were oversampled by a factor of 1.76. So that results for first births could be added in their due proportion to those for the rest of the sample, a reweighting factor of .57 was applied to all results for first births. Thus the weighted sample size was 1544, although 2103 interviews were achieved.

At the follow-up interviews, when the babies were aged four months, half the mothers who were still breast feeding when first interviewed and one sixth of the remainder were re-interviewed. Additional reweighting was therefore required before results for these two groups of mothers could be added together. The sample for the follow-up stage was selected so that, after reweighting, it should have the same distribution in terms of parity and feeding method as the main stage sample. However, there were small differences between the two due to sampling error and to non-response at the follow-up stage. The reweighting factors were calculated[1] to take account of these differences, and to arrive at the same weighted sample size as at the main stage (1544), in order to facilitate comparisons between different tables and parts of tables. The number of interviews carried out at four months was 509. Calculations of sampling errors and tests of significance have been based on the actual number of interviews rather than on the weighted totals shown on the tables. All tables displaying data from the follow-up stages include percentages based on a smaller number of interviews than is indicated by the weighted base shown. These tables have been marked to draw attention to the fact that such percentages are subject to larger errors than those based on data obtained at the main stage.

1.9 Plan of the report

After a description of the main characteristics of the sample the report deals with the four main aims of the survey. Chapter 3 describes the incidence and prevalence of breast feeding, Chapters 4 - 8 look at the reasons for mothers' choice of method of feeding, Chapters 9 - 13 examine factors affecting duration of breast feeding and Chapter 14 describes patterns of infant feeding at six weeks and four months. Other information collected during the survey, but not of direct relevance to the aims of the survey, has been included in Appendices IV -VI

---

[1] Details are given in Appendix I

Chapter 2 The main variables used in the analysis and the composition of the sample

2.1 Birth Order

A mother's behaviour in feeding a second or subsequent child is influenced to some extent by experience in feeding the first child. Because the factors which influence the choice of method of feeding first babies were of particular interest, a larger sample of first than of later births was selected. Table 2.1 shows the distribution of the birth order of the sampled babies, reweighted to take account of the oversampling[1]. In determining the birth order of the sampled baby all live births to the mother were taken into account, but stillbirths were excluded.

Table 2.1 Distribution of the sample by birth order

	%
First birth	46
Second birth	33
Third birth	13
Fourth birth	5
Fifth birth or higher	3
	100
Base: total sample	*1544*

2.2 Social class

The Registrar General's six social class groups were used to classify the occupations of the babies' fathers. This was possible when both parents were living together or when the baby's father was temporarily absent. The four per cent of mothers who were not married and did not live with the father of the baby were not asked any questions about him. These mothers were not assigned to a social class category and were excluded from the relevant analyses. A further three per cent of mothers were unable to give sufficient information about their husband's work for his occupation to be classified. This group was also excluded. Table 2.2 shows the distribution of the total sample by social class, separately for first and later births.

The social class distributions for the first and later births are very similar, the only noticeable difference shown in the table being the slightly larger proportion of first births where the father was not living in the household. This group comprises mainly illegitimate babies of young unmarried mothers so we would expect the majority to be first births.

2.3 Education

Classification by social class was based on the occupation of the baby's father rather than on that of the mother, partly to facilitate comparisons with other studies where the same criteria for classification have been used, but also because the occupations of the majority of mothers could be described as being either clerical and minor supervisory or semi-skilled manual. The use of only two categories of social class would restrict the analyses that could be attempted. We decided to use in addition to social class the age at which mothers completed their full time education. This variable reflects the mother's own background better than her husband's occupation.

Table 2.3 gives the distribution of the sample by the age at which mothers finished their full time education,

---

[1] The rationale for reweighting the results is given in section 1.8 p5

Table 2.2 Distribution of the sample by social class, for first and later births

		Total	First births	Later births
		%	%	%
I	Professional	8	8	7
II	Managerial and technical	18	18	19
IIInm	Clerical and minor supervisory	10	10	9
	Total non-manual	36	36	35
IIIm	Skilled manual	41	42	41
IV	Semi-skilled manual	12	10	14
V	Unskilled manual	4	3	5
	Total manual	57	55	60
	Father not in household	4	7	2
	Unclassified	3	3	3
		100	100	100
Base:	*total sample*	*1544*	*711*	*833*

Table 2.3 Distribution of the sample by age mother finished full time education, for first and later births

		Total	First births	Later births
		%	%	%
	Over 18	11	13	9
	17 or 18	15	17	13
	16	24	27	22
	Under 16	50	44	56
		100	100	100
Base:	*total sample*	*1544*	*711*	*833*

showing the distributions for first and later births separately. The results show that mothers of second and subsequent babies were likely to have finished their education at a younger age than mothers of first babies.

Studies of fertility show that women who leave school at the minimum age tend to have larger families than women whose full time education is extended beyond the minimum age.

We would of course expect a close association between the age at which mothers finished their full time education and the social class classification based on the husband's occupation. This is shown in Table 2.4.

Table 2.4 Distribution of social class by age which mother finished full time education

	Over 18	17 or 18	16	Under 16
	%	%	%	%
I	28	10	8	2
II	44	26	20	10
IIInm	6	18	11	8
Total non-manual	78	54	39	20
IIIm	15	34	38	51
IV	3	6	13	16
V	0	1	3	6
Total manual	18	41	54	73
Father not in household	0	2	5	4
Unclassified	3	3	2	3
	100	100	100	100
Base: total sample	*170*	*223*	*372*	*779*

2.4 Mother's age

It was not sensible in this survey to carry out any analysis of the relationship between mother's age and breast feeding for mothers of more than one child. The age of these mothers will be related both to the number of children they have had and the interval between successive births, both of which may in turn relate to breast feeding. Since, as will be shown in Chapter 4, previous experience of feeding had a major effect on how the sampled baby was fed, we could have looked at mothers' ages when their first child was born. But these first children would have been born at different times preceding the survey when differing fashions in infant feeding might have affected the method chosen by the mother, quite apart from her age at the time. In addition, no analysis could be made of the effects of mother's age on breast feeding for a group of mothers all of whom had a first child born in any specified year before the survey, as such mothers would be atypical of mothers in general who had a first child in that year by virtue of their all having a later child born in October 1975. For the mothers in the sample having their first baby no such problems arise since all the babies were born within a week of one another and are a representative sample of first babies born at that time.

Table 2.5 gives the age distribution of mothers in the sample and shows that mothers of first babies were on average younger than mothers who had more than one child. Tables 2.6 and 2.7 show, for mothers of first babies only, the relationship between mothers' ages and social class and age at which mothers finished full time education.

Mothers in the higher social class categories and whose formal education ended later tended to be older than other mothers of first babies. These results confirm the findings of fertility studies that better educated women with husbands in higher status occupations tend to delay having a first child until they are older than average.

The results shown in Table 2.7 are affected by the raising of the minimum school leaving age in 1973 from fifteen to sixteen. Thus any mother who left school under sixteen must have been aged at least eighteen at the time of the survey. For this reason the proportion of mothers, of first babies, who were aged under twenty is smaller among mothers who left school under sixteen than among those who left school at sixteen. In two years time there will be no women, then having a first baby, who are aged under twenty but who left school under sixteen. Since so few women who left school after the minimum leaving

Table 2.5 Age distribution of mothers, for first and later births

	Total	First births	Later births
	%	%	%
Under 20	9	17	2
20 - 24	32	38	26
25 - 29	39	35	42
30 - 34	16	8	22
35 and over	5	2	8
	100	100	100
Base: total sample	*1544*	*711*	*833*

Table 2.6 Age of mothers of first mothers of first babies by social class

	I	II	IIInm	IIIm	IV & V	No father in household
	%	%	%	%	%	%
Under 20	0	3	8	17	25	67
20 - 24	27	23	33	48	44	24
25 - 29	55	57	45	29	25	4
30 and over	18	17	14	6	6	5
	100	100	100	100	100	100
Base: first births	*56*	*126*	*72*	*296*	*94*	*47*

Mothers whose husband's occupation was unclassified were excluded from the table.

Table 2.7 Age of mothers of first babies by age of finishing full time education

	Over 18	17 or 18	16	Under 16
	%	%	%	%
Under 20	1	8	26	19
20 - 24	26	40	35	43
25 - 29	58	38	32	29
30 and over	15	14	7	9
	100	100	100	100
Base: first births	*91*	*118*	*191*	*311*

age was raised have yet had children, we shall retain separate categories for those who left school under sixteen and at sixteen, although this will not be justifiable in future years. An interesting question will then be whether those women leaving school at the new minimum age of sixteen behave in the same way as those who left at the old minimum age in respect of the age at which they have their first child.

2.5 Region

Births are registered in the registration sub-district in which they occurr. Thus the regional distribution of the sample is based on the region in which the baby was born rather than where the baby and mother were living at the time of the survey. The 100 sampled registration areas were spread over the nine Standard Regions of England and Wales used for population statistics. These regions are defined in terms of new counties and do not correspond to the National Health Service regions. For the purpose of analysis they were grouped into four regions as follows:

Region used in analysis:	Standard Region:
North	Northern North West Yorkshire and Humberside
Midlands and East Anglia	West Midlands East Midlands East Anglia
South West and Wales	Wales South West
London and the South East	South East

Table 2.8 shows the regional distribution for the total sample, and for first and later births separately. There are no significant differences between the regional distributions for first and later births.

For each region the distribution of the sample by social class and age at which mothers finished full time education is shown in Tables 2.9 and 2.10.

These results confirm the usual finding that the South East has a larger proportion of people in the higher social classes and who left school later than does the North. Clearly some account of these regional differences must be taken when the incidence of breast feeding in the different regions is examined.

Table 2.8 Distribution of the sample by region for first and later births

	Total	First births	Later births
	%	%	%
London and South East	33	35	32
South West and Wales	12	12	13
Midlands and East Anglia	21	21	21
North	33	32	34
	100	100	100
Base: total sample	*1544*	*711*	*833*

Table 2.9 Distribution of social class by region

	London and South East	South West and Wales	Midlands and East Anglia	North
	%	%	%	%
I	10	5	7	6
II	25	16	11	18
IIInm	11	10	8	9
Total non-manual	**46**	**31**	**26**	**33**
IIIm	35	45	51	41
IV	10	13	14	13
V	3	4	2	6
Total manual	**48**	**62**	**67**	**60**
No father in household	3	3	2	2
Unclassified	3	4	4	5
	100	100	100	100
Base: total sample	*515*	*192*	*326*	*511*

Table 2.10 Distribution of age mother finished full time education by region

	London and South East	South West and Wales	Midlands and East Anglia	North
	%	%	%	%
Over 18	15	11	8	9
17 or 18	18	18	15	10
16	25	24	25	22
Under 16	42	47	52	59
	100	100	100	100
Base: total sample	*515*	*192*	*326*	*511*

Chapter 3 Incidence and prevalence of breast feeding at various stages of the first year of life.

3.1 Incidence of breast feeding

In Chapter 1 'incidence of breast feeding' was defined as the proportion of babies who were put to the breast at all. It could be argued that babies who were put to the breast on only one or two occasions should not be included as being breast fed, but we chose the definition for two reasons: any other definition would involve a necessarily arbitrary decision about how many attempts to put the baby to the breast should have been made before the baby was included as being breast fed at all. Secondly, since the survey aimed to investigate reasons for mothers stopping breast feeding after a short time, those who abandoned breast feeding after one or two attempts are of as much interest as any other mothers who stopped after a short time. In practice the definition adopted did not significantly affect estimates of the incidence of breast feeding; only one per cent of all mothers gave up breast feeding after trying for one day or less, and fewer than one per cent abandoned breast feeding after only one or two attempts to put the baby to the breast.

Of the babies in the sample 51 per cent were put to the breast initially. This is a higher incidence than might have been expected from studies carried out a few years ago (for example, those quoted in 'Present-Day Practice in Infant Feeding'), so this figure suggests an increase in the proportion of mothers attempting to breast feed. However, comparisons with other studies are limited by their use of small local samples and, as we shall show, regional differences in the incidence of breast feeding affect the validity of such comparisons.

In order to examine some of the factors which affect the incidence of breast feeding, and to facilitate comparisons with other studies and with data collected in future years, the incidence of breast feeding is given for the various social and demographic groups described in the previous chapter.

Table 3.1 shows the incidence of breast feeding according to the birth order of the sampled baby.

Table 3.1 Incidence of breast feeding by birth order

	Proportion breast fed %	*Base*
First birth	62	*711*
Second birth	44	*522*
Third birth	42	*194*
Fourth or later birth	32	*117*
All second and subsequent births	42	*833*

A significantly higher proportion of first than of second and subsequent babies was breast fed initially. There was also a somewhat lower incidence of breast feeding among fourth and later births than among second and third births. In Chapter 4 we shall investigate whether the higher incidence of breast feeding among first births was due to more mothers of first babies choosing to breast feed at the time of the survey than in previous years, or whether a significant proportion of mothers who breast fed their first child changed to bottle feeding with later children, or to some combination of these explanations.

Tables 3.2 to 3.5 show the incidence of breast feeding by social class, the age at which a mother finished her full time education, the mother's age and the region in which the baby was born. Figures for first and later births are shown separately. In the analysis of the effect of mother's age, results are shown only for first births since the interpretation of results for later births would be confounded by the relationship of mother's age with parity, the interval between successive births and the time at which the first child was born (Chapter 2, p9).

Table 3.2 Incidence of breast feeding by social class and whether first or later birth

Social class	Total		First births		Later births	
	Proportion breast fed	*Base*	Proportion breast fed	*Base*	Proportion breast fed	*Base*
	%		%		%	
I	77	*116*	87	*56*	68	*60*
II	66	*284*	80	*126*	55	*158*
IIInm	60	*150*	68	*72*	53	*78*
Total non-manual	67	*550*	78	*254*	57	*296*
IIIm	45	*639*	55	*296*	37	*343*
IV and V	39	*253*	56	*94*	38	*159*
Total manual	43	*892*	55	*390*	34	*502*
No father in household	29	*61*	28	*47*	(5)	*14*
Unclassified	42	*41*	57	*20*	(6)	*21*

() *denotes number, not percentage.*

Table 3.3 Incidence of breast feeding by age mother finished full time education and whether first or later birth

Age at which mother finished full time education:	Total		First births		Later births	
	Proportion breast fed	*Base*	Proportion breast fed	*Base*	Proportion breast fed	*Base*
	%		%		%	
Over 18	85	*170*	88	*91*	81	*80*
17 or 18	66	*224*	74	*119*	58	*105*
16	53	*372*	59	*191*	46	*181*
Under 16	38	*779*	51	*311*	30	*468*

Table 3.4 Incidence of breast feeding by mothers age (first births only)

Mother's age at interview:	First births	
	Proportion breast fed	*Base*
	%	
Under 20	36	*118*
20-24	61	*272*
25-29	74	*250*
30 and over	68	*72*

Table 3.5 Incidence of breast feeding by region and whether first or later birth

Region:	Total Proportion breast fed	Total *Base*	First births Proportion breast fed	First births *Base*	Later births Proportion breast fed	Later births *Base*
	%		%		%	
London and South East	62	*515*	72	*246*	52	*269*
South West and Wales	53	*192*	59	*87*	47	*105*
Midlands and East Anglia	48	*326*	58	*152*	40	*174*
North	41	*511*	54	*226*	32	*285*

Although the results show differences in many of the groups in the incidence of breast feeding, they cannot be accepted at their face value because account must be taken of the inter-relationships between the variables, which were described in the previous chapter, before the relationship between any of the variables and the incidence of breast feeding can be determined accurately.

One method of examining the relationship between two variables while controlling for their relationships with other variables is the use of cross tabulations, for example, examining the incidence of breast feeding by social class within each region. But this method is of limited use with small samples as the numbers in many of the cells are too small for meaningful percentages to be calculated. To overcome this problem, a statistical procedure (a maximum likelihood procedure[1]) was used which, in brief, involves fitting a model to the data from which the most probable relationship between each variable and the incidence of breast feeding can be determined. The method takes account of the inter-relationships between all the variables and eliminates chance fluctuations due to the small numbers in some cells.

Before carrying out the analyses for the whole sample a preliminary analysis was made for the first births alone, so that the effect of mother's age on the incidence of breast feeding could be examined. The analysis showed that each of the variables (age at which mother finished full time education, social class, region and mother's age) was significantly related to the incidence of breast feeding, but mother's age was the least closely related of the four; mothers of first babies who were aged twenty when interviewed had a significantly lower incidence of breast feeding than other mothers, but there were no significant differences between the other age groups. Since mother's age was the variable least closely related to the incidence of breast feeding of those studied, and the proportion of mothers of first babies aged under twenty in the total sample was small, mother's age was omitted from the variables used in subsequent analyses.

An analysis using the same maximum likelihood procedure was then carried out on results from the whole sample, with the exception of mothers whose social class was not known, to determine the respective relationships between the incidence of breast feeding and the age at which mothers finished full time education, social class, region and whether the baby was a first birth or not.

---

[1] Based on the method described by G.V. Dyke & H.D. Patterson (1952) Analysis of factorial arrangements when the data are proportions. Biometrics 8, 1-12, and carried out using the Generalized Linear Interactive Modelling program (GLIM), developed by the Working Party of Statistical Computing of the Royal Statistical Society (1975) *Applied Statistics* 24 (2) 259-261. Details of the method used and the full results obtained are given in Appendix III

The results indicated that each of the four variables was significantly and independently related to the incidence of breast feeding. The relationships can be summarised as follows:

- first births had a higher incidence of being breast fed than later births
- mothers educated beyond 18 had a higher incidence of breast feeding than other mothers; mothers whose education was completed at 16 or under had a lower incidence of breast feeding than other mothers
- mothers whose husbands had non-manual occupations had a higher incidence of breast feeding than those whose husbands had manual occupations
- mothers whose baby was born in London or the South East had a higher incidence of breast feeding than those whose baby was born in other regions.

The analysis provides estimates of the incidence of breast feeding for each of the sub-groups included. The estimates, which are shown in Table 3.6, are of what we would expect to find if we took average values from a large number of random samples of babies throughout England and Wales.

Table 3.6 Estimated incidence of breast feeding for the total sample

			Estimated incidence of breast feeding			
	Age finished full time education	Social class	London and South East	South West and Wales	Midlands and East Anglia	North
			%	%	%	%
First births	Over 18	Non-manual	93	91	90	87
		Manual	89	86	85	80
	17 - 18	Non-manual	84	80	79	73
		Manual	76	70	68	62
	16	Non-manual	78	73	71	65
		Manual	67	61	59	52
	Under 16	Non-manual	70	64	62	54
		Manual	58	51	49	41
Second and subsequent births	Over 18	Non-manual	86	82	80	75
		Manual	78	72	70	64
	17 - 18	Non-manual	70	64	62	54
		Manual	58	51	48	41
	16	Non-manual	60	54	51	44
		Manual	47	41	38	32
	Under 16	Manual	50	44	41	34
		Non-manual	37	31	29	23

The results show that the highest rate of breast feeding (93%) would be expected among mothers of first babies who were educated beyond the age of eighteen, whose husbands were in non-manual occupations and whose baby was born in London or the South East. Conversely, the lowest rate (23%) would be expected among mothers of more than one child who left school under sixteen, whose husbands were in manual occupations and whose baby was born in the North.

This method of analysis demonstrates that, although some of the differences in incidence of breast feeding between the different categories of the variables examined were attributable to inter-relationships between the variables, all four variables were independently related to the incidence of breast feeding. The results of the analysis can be used to calculate standardised rates of breast feeding for each variable. The standardised rates of breast feeding for the four regions, for example, are the rates that would be expected if each region had the same composition in terms of education, social class and proportion of first births as the sample as a whole. The standardised rates for whether the baby was a first birth or not, the age at which mothers finished their full time education, social class and region are shown in Tables 3.7 to 3.10.

Table 3.7 Estimated incidence of breast feeding by whether the baby was a first birth or not, standardised for education, social class and region

	Standardised incidence of breast feeding
	%
First births	62
Second and subsequent births	44

Table 3.8 Estimated incidence of breast feeding by age at which mother finished full time education, standardised for social class, region and whether first or later birth

Age at which mother finished full time education:	Standardised incidence of breast feeding
	%
Over 18	80
17 - 18	62
16	53
Under 16	43

Table 3.9 Estimated incidence of breast feeding by social class, standardised for age at which mother finished full time education, region and whether first or later birth

Social class:	Standardised incidence of breast feeding
	%
Non-manual	60
Manual	48

Table 3.10 Estimated incidence of breast feeding by region, standardised for age at which mother finished full time education, social class and whether first or later birth

Region:	Standardised incidence of breast feeding
	%
London and the South East	59
South West and Wales	54
Midlands and East Anglia	52
North	45

These results display clearly the independent effect of each variable on the incidence of breast feeding that cannot be attributed to that variable's relationship with any of the other variables. The results for first and later births do not differ significantly from the unstandardised rates, but for the other variables the difference between groups were not as great as the unstandardised rates shown in Tables 3.2, 3.3 and 3.5 indicated.

3.2 Incidence of breast feeding among single mothers

Mothers who did not live with the baby's father were excluded from the foregoing analysis as they could not be assigned to a social class category. In this section we examine whether these mothers had a different rate of breast feeding than might have been predicted from knowledge of their social and demographic characteristics.

The incidence of breast feeding among single mothers was 29 per cent; a very low rate. However, most of these mothers were aged under twenty and had left school at sixteen or under. Both these factors were shown to be associated with a low incidence of breast feeding. The question of interest is whether the incidence of breast feeding among single mothers was lower than would be expected of mothers with the same characteristics who were not single. The characteristics of single mothers in terms of the proportion having first babies, the age of the mother, the age at which she finished her full time education and the region in which the baby was born were known.

Using the results of the analysis described above we could calculate the incidence of breast feeding that a group of mothers with the same characteristics could be expected to have. As no measure of social class was available for single mothers, the rates for women whose husbands had manual rather than non-manual occupations were used, since these give a lower estimate.

On this basis we estimate that 42 per cent of a group of mothers with the same characteristics as the single mothers would be expected to breast feed. This is a higher proportion than the 29 per cent of single mothers who actually breast fed, and so we conclude that single mothers are less likely to breast feed than other mothers. A number of single mothers said they would have to return to work soon after the baby's birth by virtue of their financial situation and therefore did not breast feed. Others were living with their own families and wanted their own mother to be able to help with feeding the baby or were inhibited about breast feeding in front of other members of their family.

3.3 Income and incidence of breast feeding

It has been suggested that mothers may be deterred from bottle feeding by the cost of buying powdered artificial milk and therefore that mothers from low income families would be more likely to choose to breast feed. We examined the incidence of breast feeding according to the joint income of the mother and her husband and found that incidence of breast feeding appeared to rise with income. However, when the incidence of breast feeding within each income band was calculated separately for each social class category, the relationship between incidence of breast feeding and income disappeared. There was no evidence of a higher incidence among mothers with low incomes.

The incomes of single mothers were generally in the lowest income category and they were considered separately. However, this group of mothers had a particularly low incidence of breast feeding.

3.4 Prevalence of breast feeding at various stages of the first year of life

During the first interview, when the babies were in their sixth week of life, all mothers who said they had tried breast feeding were asked whether they were still doing so or whether they had stopped. Those who had stopped were asked how old the baby had been when they last breast fed. From this information we could calculate the prevalence of breast feeding at ages up to six weeks for the whole sample.

Only half the mothers still breast feeding at the time of the first interview were re-interviewed when their babies were four months old. Estimates of the prevalence of breast feeding after six weeks are therefore based on fewer interviews and are subject to greater errors. Although all mothers still breast feeding at the time of the second interview were followed up by post until they had stopped breast feeding or the baby was a year old, a few mothers did not reply to our letters. This constitutes another possible source of error for the estimates of prevalence of breast feeding. Since the errors associated with the estimates of prevalence vary according to the baby's age, Table 3.11, which shows the figures for prevalence of breast feeding at ages up to one year, also shows the errors associated with the estimates at several different ages.

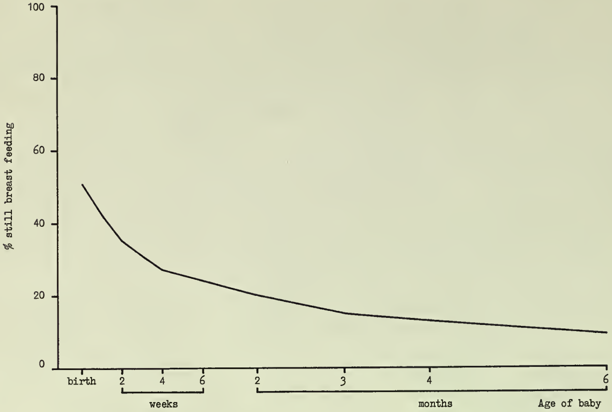
Table 3.11 Prevalence of breast feeding at ages up to 1 year

	% still breast feeding	% error
Birth	51	1.4
1 week	42	
2 weeks	35	
3 weeks	31	
4 weeks	27	
6 weeks	24	1.0
2 months	20	
3 months	15	
4 months	13	1.4
6 months	9	1.4
1 year	0	0.5
Base†: total sample	*1544*	

† The base shown is a weighted base rather than the actual number of interviews since these vary with the age at which the estimates were made. For further discussion see note on reweighting, 1.8 p5.

Figure 3.1 displays the results shown in Table 3.11 graphically, and emphasises the sharp decline in breast feeding over the first few weeks, so that almost half the babies who were put to the breast initially were completely bottle fed by the age of six weeks.

Fig 3.1 Proportion of babies still breast fed at different ages up to 6 months



Section 3.1 showed that the incidence of breast feeding varied with mother's education, social class, region and whether the baby was a first birth or not. However, with the exception of the last, these variables were significantly interrelated and the analysis had to take account of this fact in order to discover the true relationships between these variables and the incidence of breast feeding. Considerations of time and cost prevented our carrying out this sort of analysis for the estimates of prevalence at each of the ages shown in Table 3.11, but an analysis was carried out for estimates of the prevalence of breast feeding at six weeks[1]. Tables 3.12 to 3.15 give standardised figures for the prevalence of breast feeding at six weeks, calculated by the same method as was used for the figures presented in Tables 3.7 to 3.10.

Table 3.12 Prevalence of breast feeding at 6 weeks by whether the baby was a first birth or not, standardised for education, social class and region

	Standardised prevalence of breast feeding at 6 weeks
First births	27%
Second and subsequent births	23%

---

[1] Details of the results are given in Appendix III

Table 3.13 Prevalence of breast feeding at 6 weeks by age at which mother finished full time education, standardised for social class, region and whether first or later birth

Age at which mother finished full time education:	Standardised prevalence of breast feeding at 6 weeks
	%
Over 18	53
17 - 18	29
16	25
Under 16	16

Table 3.14 Prevalence of breast feeding at 6 weeks by social class, standardised for mother's education, region and whether first or later birth

Social class:	Standardised prevalence of breast feeding at 6 weeks
	%
Non-manual	32
Manual	19

Table 3.15 Prevalence of breast feeding at 6 weeks by region, standardised for mother's education, social class and whether first or later birth

Region:	Standardised prevalence of breast feeding at 6 weeks
	%
London and the South East	28
South West and Wales	26
Midlands and East Anglia	26
North	19

Prevalence figures for the different categories of these variables, whether standardised or unstandardised, are largely determined by the initial incidence of breast feeding in each category. In other words, differences in the prevalence of breast feeding at six weeks between many of the groups may merely reflect initial differences in the proportions starting breast feeding rather than differences in the rate of decline of breast feeding. This problem in interpreting the results presented above can be illustrated by considering the results for first and later births.

Some 62 per cent of first births and 42 per cent of later births were breast fed initially. By six weeks the prevalence of breast feeding was 27 per cent and 20 per cent for the two groups respectively. But the rate of decline in breast feeding was much greater for first births than for later births. This is apparent if the results are percentaged a different way: of those who were breast fed initially, 44 per cent of first births were breast fed at six weeks compared with 49 per cent of later births. This method of calculating results will be used to examine factors affecting duration of breast feeding in later chapters; the above example illustrates the different views of the results obtained by percentaging in different ways. Further consideration of the relationship between duration of breast feeding and variables such as social class, education and region will be deferred until Chapter 9.

3.5 Mothers' working status in relation to the incidence and prevalence of breast feeding

Part of the decline in breast feeding noted in previous years is said to be attributable to an increase in the proportion of mothers who return to work when their babies are still young, and who either do not breast feed at all or do so for only a short time. We therefore examined the prevalence of breast feeding in relation to mothers' working status at the time of the first interview at six weeks and at the follow-up interview at four months.

At the first interview at six weeks only four per cent of mothers were doing any paid work: one per cent were working full time and three per cent were working part time. Half of the mothers in each group did not go to work outside the home, either because the work was done at home, for example, dressmaking or childminding, or the mothers were living at their place of work, such as a pub or a hotel.

By the time the babies were four months old, ten per cent of the mothers were working: three per cent full time and seven per cent part time. Most of those working full time went out to work, but half of those working part time worked at home.

Table 3.16 shows the proportions of mothers who breast fed initially and who were breast feeding at six weeks according to the mothers' working status at six weeks.

Those who were working at six weeks appeared somewhat less likely than those who were not working either to have breast fed initially or to be breast feeding at six weeks, but the proportion of mothers working at all was so small that the differences were not statistically significant.

Table 3.17 shows the proportions of mothers who breast fed initially and who were breast feeding at four months according to mothers' working status at four months.

Table 3.16 Incidence of breast feeding and prevalence at 6 weeks according to mothers' working status at 6 weeks

Working status at 6 weeks:	%	% breast fed initially	% breast fed at 6 weeks	*Base*
Working full time	1	40 %	20 %	*55*
Working part time	3			
Not working	96	52 %	24 %	*1489*
	100			

Base: total sample 1544

Table 3.17 Incidence of breast feeding and prevalence at 4 months according to mothers' working status at 4 months

Working status at 4 months:	%	% breast fed initially	% breast fed at 4 months	*Base* †
Working full time	3	50 %	7 %	*44*
Working part time	7	56 %	16 %	*114*
Not working	90	50 %	13 %	*1383*
	100			
Base: total sample	*1544*			

† *see note on reweighting, 1.8 p5.*

The proportion of mothers who breast fed initially was not significantly related to their working status at four months. Mothers who were working full time at four months seemed less likely than other mothers still to be breast feeding, but the proportion of mothers working full time was again so small that the difference was not statistically significant.

These results provide no evidence that mothers who return to work in the first four months are less likely than other mothers to attempt to breast feed. Some mothers might have chosen to bottle feed because they were planning to return to work but did not in fact return. However, the reasons given by mothers for choosing to bottle feed gave no evidence that this happened to a significant extent.

Mothers who returned to work full time might be expected to stop breast feeding on their return to work. However, the proportion returning to work in the first four months was so small that it was not possible to determine whether this was the case or not.

A partial explanation of the lack of relationship between working status and breast feeding was suggested when we examined the questionnaires of some of the mothers who had returned to work in the first four months. There appeared to be two main types of mothers: those whose financial situation made it necessary for them to return to work (eg single mothers), and professional mothers who wanted to resume their careers as soon as possible. Few mothers in the first group breast fed at all, but most of the second group did so and some continued to give some breast feeds after their return to work. However, there were too few mothers for a detailed statistical analysis to be carried out.

3.6 Summary and conclusions

The incidence of breast feeding for the total sample was 51 per cent; a higher figure than those reported in studies carried out in the early 1970s. The highest incidence of breast feeding was found among mothers of first babies, who were educated beyond the age of eighteen, whose husbands had non-manual occupations, and whose babies were born in London and the South East.

Single mothers had a lower incidence of breast feeding than married mothers with similar social and demographic characteristics. However, there were too few single mothers included in the survey to investigate in detail the circumstances that led so many of them to bottle feed rather than breast feed.

The results provided no evidence of a higher incidence of breast feeding among mothers from low income families, even when social class differences in income were taken into account.

Few mothers had returned to paid work within four months of the birth. The results provided no evidence that mothers who returned to work by this time were less likely than other mothers to attempt to breast feed.

Too few mothers had returned to full time working by four months to assess the effect of their return on duration of breast feeding, and there was no evidence that part time working affected the prevalence of breast feeding at six weeks or at four months.

Chapter 4. Mothers with previous experience of feeding a baby

The method chosen by a mother of more than one child for feeding her latest child is likely to be determined at least to some extent by her experience of feeding the earlier child or children. This chapter examines how mothers of more than one child fed their earlier children and the effect of this experience on their choice of method for the sampled baby. One qualification affecting the analysis to be presented is that mothers were asked to remember events that might have occurred several years prior to the interview. Their answers to the questions on the survey may therefore be subject to errors of recall or distortion due to subsequent experience of feeding children. Mothers' reports of their reasons for choosing a method of feeding or for changing methods are more likely to be affected by such problems than their reports of the method of feeding they used for each previous child or the approximate length of time for which they breast fed.

4.1 Method of feeding the eldest child

It has already been shown that, among the sampled babies, a higher proportion of first than of later babies were breast fed. This could be because more mothers of first babies were attempting to breast feed than in the recent past or because some mothers had tried breast feeding an earlier child and subsequently decided not to breast feed the sampled baby. Mothers of more than one child were asked what method they had used for their first child. It was found that 55 per cent had breast fed, at least initially. Since 62 per cent of the sampled first babies were breast fed, this finding would be consistent with a general increase in the level of breast feeding over the last few years.

First children of mothers who had had more than one child were born at different points in time and their mothers are not typical of mothers of first children born at those times generally since all went on to have at least one other child, and more specifically, a child born in October 1975. The results cannot therefore be used to find out what proportion of first babies were breast fed in earlier years. However, other studies[1] suggest that breast feeding was declining at least until 1970, although it is not clear exactly when this trend started to reverse. It therefore seems likely that part of the difference in incidence of breast feeding between first and later births is accounted for by a general increase in the incidence of breast feeding among mothers of first babies.

4.2 Method of feeding different children

Nevertheless, although 55% of mothers with more than one child had breast fed their first child, only 42% had breast fed the sampled baby. Thus some mothers who had tried breast feeding must have changed to bottle feeding. Mothers who were happy with the method they used for their first child would be expected to continue to choose the same method for later children. Some 68 per cent of mothers had used the same method for a all or both their children and 32 per cent had tried both methods. Table 4.1 shows the method they chose initially and the changes made.

---

[1] For example, Douglas, J W B and Rowntree, G *Maternity in Great Britain* Oxford University Press (1948), Chamberlain, R. et al *British Births 1970: The First Week of Life* London (1975) and studies mentioned in *Present-Day Practice in Infant Feeding*.

Table 4.1 Use of same or different method of feeding by mothers of more than one child

	%
All/both children breast fed	31
All/both children bottle fed	37
First child breast fed; at least one other child bottle fed	24
First child bottle fed; at least one other child breast fed	8
	100
Base: mothers who had fed more than one child	*826*

Few mothers who bottle fed their first child subsequently breast fed, in contrast to mothers who breast fed their first child, almost half of whom had bottle fed at least one child by the time their latest baby was born.

Examination of the relationship between method of feeding and the number of children mothers had fed (including the sampled baby) showed that the more children a mother had fed, the more likely she was to have breast fed her first child, but the less likely she was to have breast fed the sampled baby (Table 4.2).

When the changes in feeding method made by mothers of three or more children were examined it was found that, although some mothers did change from breast to bottle and back again, by far the most common pattern among those who changed methods was to breast feed the first child and then bottle feed later children. It is not possible to tell from the results why the proportion of first children breast fed rose from 52 per cent among mothers of two children to 62 per cent among mothers of four or more children. It could be a reflection of the rate of breast feeding prevalent at the time the first child was born, which would generally be earlier in time the more children the mother had had, or it might be that women who go on to have large families are atypical in respect of infant feeding as well as in respect of having large families. Of mothers who bottle fed their first child, the proportion who later tried breast feeding was unrelated to the number of children they subsequently had, but it must be remembered that not all the mothers included in the survey would have completed their families and this might affect the eventual relationship between method of feeding and number of children.

4.3 Reasons for changing methods

It was noted above that few mothers who bottle fed their first child later tried breast feeding. We looked at the reasons these mothers gave for bottle feeding their first child and found that almost half said they had wanted to breast feed but had been unable to do so for medical reasons, for example the baby had been premature or they had been ill. However, about a third had chosen to bottle feed their first child but had subsequently changed their minds and decided to try breast feeding. Other mothers mentioned specific circumstances which had influenced their initial choice, for example, lack of privacy to breast feed, or an early return to work planned, which did not apply when later

Table 4.2 Proportion of first children and sampled babies who were breast fed by number of children mother had fed

Number of children mother had fed	% first children breast fed	% sampled babies breast fed	*Base*
2	52 %	44 %	*520*
3	60 %	42 %	*200*
4 or more	62 %	29 %	*106*

children were born. However, mothers who changed their minds were a minority among those mothers who chose to bottle feed; for most the decision to bottle feed is probably made once and for all.

The reasons given by mothers who changed from breast to bottle feeding were examined. The reasons given for breast feeding the first child differed in some respects from those given by mothers who went on to breast feed all or both their children; the latter were more likely to say that they had been made to breast feed in hospital or had been influenced by doctors or midwives to try breast feeding. However, these reasons might well be justifications for the subsequent change to bottle feeding rather than their true reasons for breast feeding their first child. Fewer of these mothers gave positive reasons for breast feeding, such as that breast milk is better for babies or that breast feeding is more natural.

Having looked briefly at the reasons given for breast feeding the first child by the mothers who changed from breast feeding to bottle feeding, we next examined the reasons given for changing to bottle feeding. Over half these mothers said they had changed methods because they had experienced problems with breast feeding. The next most frequently mentioned reason was that mothers found breast feeding too awkward or time consuming, particularly when they had another child (or children) to look after. A small group said they had not liked breast feeding and therefore had not tried it again. Some of the other mothers who changed to bottle feeding may also have disliked breast feeding, but preferred to give a more acceptable reason such as 'insufficient milk'.

4.4 Duration of breast feeding the first child

Since problems with breast feeding were the main reason for changing to bottle feeding, the length of time for which mothers had breast fed their first child and the method they chose for their second child were examined, assuming that mothers who breast fed the first for only a short time would be more likely to have stopped because they had problems with breast feeding. Table 4.3 shows the proportion of second children who were breast fed by the length of time for which the first child was breast fed. The results show a very clear relationship between the length of time the first child was breast fed and whether the second child was breast fed or not. There was a particularly marked increase in the proportion of mothers who breast fed their second child among those mothers who had breast fed the first for more than four weeks.
The results for mothers who subsequently had more than two children by the time of the survey were much the same. Of the mothers who had breast fed their first child for more than two months, 83 per cent went on to breast

Table 4.3 Proportion of second children breast fed by duration of breast feeding first child

First child breast fed for:	% second children breast fed	*Base*
1 week or less	30 %	*113*
Over 1 week up to 2 weeks	42 %	*49*
Over 2 weeks up to 4 weeks	46 %	*66*
Over 4 weeks up to 6 weeks	78 %	*53*
Over 6 weeks up to 3 months	83 %	*74*
Over 3 months up to 6 months	98 %	*62*
Over 6 months	92 %	*37*

feed all their later children whereas only 12 per cent did so if the first had been breast fed for two weeks or less.

The reasons given by mothers for stopping breast feeding their first child and whether or not they had breast fed the second child were also examined. As one might expect, those who changed to bottle feeding were much more likely to say that problems such as sore nipples or difficulties in getting the baby to take the breast caused them to abandon breast feeding, whereas those who went on to breast feed the next child had frequently stopped breast feeding because they had fed for as long as they had planned. However, in both groups the most common reason given for stopping was insufficient breast milk. Chapter 10 will show the importance of this reason for stopping breast feeding among the majority of mothers, even among those who had breast fed for several months.

4.5 Effect of previous experience on method planned for sampled baby

We are now in a position to summarise the effect of previous experience of feeding a baby on how mothers of more than one child intended to feed the sampled baby. We shall consider what the mothers said they had intended to do before the baby's birth, rather than what they actually did, since, as will be shown later, most of the discrepancies were due to medical problems. Of mothers who had not breast fed a previous child at all, 18 per cent planned to breast feed the sampled baby. Many of these mothers had intended to breast feed a previous child but said they had been unable to do so for medical reasons. Of mothers with previous experience of breast feeding 64 per cent intended to breast feed the sampled baby. However, the length of time for which they had breast fed previously affected their intentions; of mothers who had not breast fed any previous child for longer than four weeks 38 per cent intended to breast feed the sampled baby, whereas 96 per cent of mothers who had breast fed at least one child for longer than two months intended to breast feed again.

4.6 Conclusions

The results presented in this chapter show that most mothers who choose to bottle feed their first child keep to the same method subsequently. Whether those who breast fed their first child go on to breast feed again appears to depend on the success with which they fed the first. If these mothers had encountered problems causing them to stop breast feeding after a short time, they were much less likely to try breast feeding again than those who managed to breast feed for longer. Thus a mother's choice of method of feeding for her second or subsequent children is largely determined by her experience of feeding earlier children. For this reason analysis of the influences on the choice of method of feeding to be presented in the next few chapters will be confined to mothers of first babies. Particular attention will be paid to reasons given for stopping breast feeding in the early weeks of life in view of the effect this may have on the feeding of later children.

Chapter 5 Choice of method of feeding among mothers of first babies

Chapter 4 showed the importance of previous experience of feeding a baby in determining the method chosen for the sampled baby by mothers of more than one child. This chapter and the following three chapters examine the choice of method of feeding made by mothers having their first baby, and the factors that influence that choice.

5.1 Limitations of the present study

Mothers were interviewed six weeks after they had given birth. Their recollections of their reasons for choosing breast or bottle feeding, their attitudes and beliefs about methods of feeding and the attitudes of other people with whom they discussed how they would feed the baby while they were pregnant may all have been affected by their experience of feeding a baby in the six weeks prior to the interview. Many of the conclusions drawn from the results presented in this and the following three chapters must necessarily be regarded as tentative until confirmed by a prospective study of women expecting a first baby, and further research would probably be needed to investigate how the attitudes and beliefs of women during pregnancy developed earlier in life.

5.2 Method chosen and timing of the choice

Of the mothers of first babies included in the survey 64 per cent said that they had planned to breast feed their baby. Most mothers decided on the method they planned to use before the baby was born, although a few did not decide until they were faced with having to feed the baby. A number of mothers (seven per cent) did not carry out their intentions, but in this and the next three chapters we are concerned with the method mothers said they planned to use; discussion of why mothers did not always feed as they had planned will be deferred until Chapter 9. 30 per cent of mothers of first babies said that they had decided before they became pregnant how they would feed the baby, and 76 per cent of these mothers said they had planned to breast feed. Of those who decided on the method they would use after they became pregnant only 60 per cent planned to breast feed.

5.3 Social and demographic correlates of choice of method of feeding

Since 93 per cent of mothers of first babies fed their baby as they had planned, the social and demographic variables which were shown in Chapter 3 to be related to the incidence of breast feeding would be expected to be similarly related to mothers' planned method of feeding. A similar analysis to that used for data on the incidence of breast feeding (page) confirmed that finishing full time education when over sixteen, having a husband in a non-manual occupation, living in London or the South East and being aged twenty or older at the time of the interview were all associated with planning to breast feed[1].

---

[1] Details of this analysis are given in Appendix III.

5.4 Reasons for choice of method of feeding

Although knowledge of social and demographic characteristics enables the prediction of which women would be most likely to breast feed and which to bottle feed, a greater understanding of what motivates women to choose breast feeding or bottle feeding is necessary before suggestions can be made of what might be done to encourage more women to breast feed. As a first step towards this mothers were asked, "Why did you decide to breast/bottle feed?". Their answers were classified into a number of different categories, and Tables 5.1 and 5.2 show the proportions of mothers who gave reasons in each of the categories among those who chose to breast feed and those who chose to bottle feed respectively.

In interpreting the results it is important to appreciate that the percentages do not necessarily indicate the relative importance of the various reasons, particularly as many mothers gave more than one reason for their choice and the most articulate mothers sometimes gave several reasons. For example, the cost of bottle feeding was rarely given as the main reason for choosing to breast feed; it was generally mentioned at the end of the answer in terms such as " .... and anyway, breast feeding is cheaper". Some of the mothers with the strongest feelings about their chosen method gave answers such as, "It never occurred to me to do anything else", although probing from the interviewer usually obtained some elaboration of such answers. Conversely, mothers who had weighed the pros and cons of the two methods often gave much fuller answers to justify their eventual choice.

Table 5.1 Reasons given by mothers of first babies for choosing to breast feed

	%
Breast feeding is best for the baby's health (provides immunity, less risk of cot death, etc)	83
Breast feeding is natural	39
Convenience (no bottles to make up or sterilise)	38
Emotional satisfaction (closer relationship between mother and baby)	20
Influenced by friends or relatives	20
Influenced/advised by health personnel (doctor, midwife, health visitor)	18
Cheaper	17
Helps mother to get her figure back	8
Can't overfeed the baby	8
Don't know/no particular reason	3
Other reasons	4
Base: mothers of first babies who planned to breast feed	*458*

Percentages do not add to 100 as some mothers gave more than one reason

Table 5.2 Reasons given by mothers of first babies for choosing to bottle feed

	%
Don't need privacy for bottle feeding/would be embarrassed to breast feed in front of others	43
Not tied to the baby because others can feed it	38
Don't like the idea of breast feeding	25
Put off breast feeding by experiences of others	17
You know how much milk the baby has had/don't need to worry whether he's had enough	14
Can't breast feed for medical reasons/advised to bottle feed by health professionals	9
Expecting to return to work soon	6
Don't know/no particular reasons	5
Other reasons	7
Base: mothers of first babies who planned to bottle feed	*253*

Percentages do not add to 100 as some mothers gave more than one reason

We were unable to decide whether the reasons given for not breast feeding included in the category 'can't breast feed for medical reasons' would have precluded breast feeding, or whether the mother was making an excuse to conceal her true reasons for not wanting to breast feed. It was noticeable that mothers who planned to breast feed mentioned mainly the positive aspects of breast feeding, but mothers who planned to bottle feed gave their answers in terms of the negative aspects of breast feeding rather than the positive aspects of bottle feeding. They may have been aware of pressures on them to breast feed and might therefore have been rather defensive about their decision to bottle feed.

A general problem in the use of the open questions about reasons for choice of method of feeding is that from the answers to such questions it is not possible to discover the extent to which mothers who chose one method would also have agreed with some of the reasons given in support of the other method. For example, the answers do not show whether or not mothers who chose to bottle feed would agree that breast feeding is best for the baby's health, but chose to bottle feed because of their embarrassment about breast feeding in front of others or their dislike of the idea of breast feeding, or whether they were not aware of the health arguments at all. More importantly, by asking direct questions it was not possible to investigate mothers' beliefs and feelings about breast and bottle feeding which underlie the choice of one method or the other. The attempt made in the survey to identify and measure such attitudes is described in Chapter 8.

5.5 Summary and conclusions

Although less than a third of mothers of first babies said that they had decided how they would feed the baby before they became pregnant, these mothers were more likely to plan to breast feed than mothers whose decision was made during pregnancy. To increase the incidence of breast feeding, health education during pregnancy might aim to influence in favour of breast feeding mothers who had not already made a definite decision to bottle feed.

Most mothers of first babies carried out their intentions with respect to method of feeding. Thus in order to encourage more mothers of first babies to attempt to breast feed most attention should be paid to mothers who, according to the results of the survey, would be least likely to choose to breast feed. These mothers were most likely to have left school at sixteen or under, to have husbands in manual occupations, to be aged under twenty and to live in the North.

Reasons given by mothers for their choice of method gave some indication of what they thought to be the main advantages and disadvantages of breast and bottle feeding, but are of limited use in the understanding of the beliefs and feelings underlying mothers' choice of method, which will be the subject of Chapter 8.

Annex to Chapter 5

The factor analysis

At the pilot stage of the survey 133 mothers were presented with 40 statements about breast and bottle feeding derived from views collected during exploratory interviews, and asked to indicate whether they agreed or disagreed with each. A factor analysis of the answers was carried out using a program from the Statistical Package for the Social Sciences and specifying a principal factors solution using Varimax rotation in order to obtain uncorrelated factors. Both three and four factor solutions were obtained, but the four factor solution did not produce readily interpretable factors and so was rejected in favour of the three factor solution. Items with the highest correlations with the three factors were selected for use at the main stage.

Twenty six items were used in the questionnaire at the main stage. The factor analysis was repeated on results from the main stage interviews in order to validate results from the pilot and to enable factor scores to be calculated. Again, a three factor solution seemed the easiest to interpret, and the factors appeared to be the same as those obtained at the pilot stage. A three factor solution accounted for 47 per cent of the variance. The items used and their loadings on each of the three factors are shown below.

In order to obtain factor scores on each of the three factors for each mother, regression weights were calculated which give the contribution of each item to each factor. Mothers' standardised scores on each item were then multiplied by the regression weight for a particular factor for each item, and the results for all items were summed to give the factor score for that factor. The scores on each factor have a mean of zero for the total sample and a standard deviation of 1.0.

	Factor loadings		
	I	II	III
	Distaste for breast feeding	Breast feeding is best for babies	Convenience of bottle feeding
1. Breast feeding is less trouble than bottle feeding	-.29	.51	-.25
2. If you breast feed you can't wear fashionable clothes	.41	.04	.14
3. Breast fed babies are less likely to get ill than bottle fed babies	-.15	.69	-.11
4. The advantage of bottle feeding is you know exactly how much milk your baby has had	.10	-.15	.46
5. Breast fed babies are more content than bottle fed babies	-.05	.69	-.23

	Factor loadings		
	I Distaste for breast feeding	II Breast feeding is best for babies	III Convenience of bottle feeding
6. A husband feels left out if his wife breast feeds	.36	-.07	.18
7. Breast feeding feels unpleasant	.61	-.37	.20
8. There is no reason to breast feed in our modern society	.61	-.36	.18
9. Breast feeding is messy	.60	-.22	.20
10. The idea of breast feeding has always appealed to me	-.49	.51	-.11
11. I think there is something animal-like about a woman breast feeding	.53	-.13	.00
12. Breast feeding is painful	.46	-.26	.26
13. Breast milk is better for babies than bottle milk	-.21	.70	-.09
14. If you breast feed you worry about whether you have enough milk	.08	-.06	.52
15. I like to feel I can go out occasionally and let someone else feed the baby	.21	-.20	.37
16. Babies prefer the breast to the bottle	-.03	.64	-.21
17. I wouldn't want to breast feed in front of an older child	.55	-.19	.23
18. Breast feeding is enjoyable for the mother	-.49	.52	-.16
19. Breast feeding is old-fashioned	.63	-.21	.12
20. You get your figure back more quickly if you breast feed	-.21	.48	.01
21. Other people are embarrassed to watch a mother breast feeding	.32	-.07	.32
22. Breast feeding limits your social life	.29	-.10	.44
23. You feel much closer to your baby if you breast feed	-.27	.69	-.13
24. Bottle feeding is easier than breast feeding	.39	-.35	.37
25. I couldn't bring myself to breast feed	.62	-.46	.14
26. You can bottle feed anywhere but you have to breast feed at home	.50	-.17	.34

Factor loadings of .30 and greater have been underlined to aid interpretation.

Chapter 6 The role of the health professionals in relation to the mothers' choice of method of feeding

Routine antenatal care is available to all mothers and almost all take advantage of it and can therefore be expected to come into contact with at least one doctor and midwife who could potentially influence them in their choice of method of feeding. To decide whether or not members of the health professions influence the choice of individual mothers, it would be necessary to study mothers' planned method of feeding before and after contact with the health professionals who talked to them about methods of feeding. This was not done in the survey, but mothers were asked whether they discussed infant feeding with any health professionals, and what their opinion was of the attitudes of the professionals towards breast and bottle feeding.

6.1 Antenatal care

This section describes the usual arrangements for antenatal care at the time of the survey, followed by a description of the antenatal care said to have been experienced by mothers in the survey, their reports of whether they talked to health professionals at antenatal clinics about feeding the baby, their reports of the views of doctors and midwives, and how these views affected their planned method of feeding.

In general an expectant mother's first contact with a member of the health professions during pregnancy is with her own General Practitioner, for confirmation of her pregnancy. In consultation with her he arranges for her care during pregnancy, where the delivery will take place and, if it is to be in hospital, how long she will stay in hospital. Most first births are planned to take place in hospital and the woman is generally booked for a full length stay, usually of between seven and ten days, depending on the policy of the particular hospital.

A woman may attend one antenatal clinic for all her antenatal care or more than one, for example, a hospital antenatal clinic and a clinic or surgery run by her own G.P. The purpose of the routine visits to antenatal clinics is to check that the expectant mother is well and the baby is developing normally. At each visit the woman's blood pressure and weight are recorded and her urine tested for abnormalities. The mother is examined by a doctor or a midwife, and a sample of blood may be taken. At hospital clinics in particular, women may meet different doctors and midwives at each visit, and may also meet pupil midwives or medical students. Thus some mothers come into contact with many more health professionals during the course of their pregnancy than others.

Next we describe the antenatal care experienced by mothers in the survey. Since discussion of choice of method of feeding is confined to mothers of first babies, information is presented for these mothers alone. Tables relating to antenatal care for the whole sample are given in Appendix IV.

Fewer than one per cent of mothers who were expecting their first baby had received no antenatal care. Three quarters had received antenatal care at more than one place, usually both at a hospital and at their own G.P's surgery or clinic. Of all mothers of first babies, 86 per cent had attended a hospital clinic for at least part of their antenatal care, 82 per cent had attended their own G.P's surgery or clinic, eight per cent had visited a Community Clinic and one per cent either had private care or had been abroad during their pregnancy. There was no difference overall in the proportion of women planning to breast feed according to the type of antenatal care they had received.

So many women had received antenatal care at more than one place that, in the survey, mothers were asked in respect of each clinic or surgery they had attended whether anyone at the clinic had asked how they planned to feed the baby. They were also asked whether anyone had discussed feeding the baby and, if so, who. Table 6.1 shows whether they were asked about feeding the baby, or had discussions about feeding, for each of the different places at which antenatal care was given.

Although most mothers had attended more than one place for antenatal care, and therefore had been in contact with several members of the health professions, over a quarter of mothers said they had not been asked by anyone how they planned to feed the baby and only 29 per cent said they had discussed feeding the baby with anyone. Mothers attending a G.P's surgery or clinic were less likely to have been asked about their plans for feeding the baby than those attending a hospital or Community Clinic.

Table 6.2 shows the proportion of mothers who said they planned to breast feed according to whether anyone at an antenatal clinic had asked them how they planned to feed the baby or discussed feeding with them.

Table 6.1 Whether mothers were asked about their plans or had discussions about feeding by type of antenatal care

	Hospital	G.P's surgery or clinic	Community Clinic	Total
	%	%	%	%
Not asked about plans: no discussion on feeding	37	61	38	28
Asked about plans: no discussion on feeding	42	23	36	43
Not asked about plans: discussion on feeding	2	2	2	2
Asked about plans: discussions on feeding	19	14	24	27
	100	100	100	100
Base: mothers of first babies who had received antenatal care	*610*	*584*	*60*	*710* †

† *includes mothers who had private care or who were abroad during pregnancy*
Mothers may have attended more than one antenatal clinic

Table 6.2 Proportion of mothers who planned to breast feed, by whether they had been asked about their plans or discussed feeding the baby

	% who planned to breast feed	*Base*
Not asked about plans: no discussions on feeding	54%	*200*
Asked about plans: no discussion on feeding	72%	*303*
Not asked about plans: discussion on feeding	(9)	*14*
Asked about plans: discussion on feeding	63%	*194*

() *denotes number, not percentage*

The results show that mothers who were asked how they planned to feed the baby, but who had had no discussion on feeding with anyone during their antenatal visits, were more likely to plan to breast feed than other mothers. The explanation for this result may be that if a mother is asked how she intends to feed the baby and says she wants to breast feed no further discussion ensues. But if she says she wants to bottle feed this may lead to a discussion of the relative merits of breast and bottle feeding. However, this does not explain why those who were not asked how they planned to feed the baby and who had no discussion about feeding were least likely to plan to breast feed.

These results were examined in relation to mothers' social class and education. Better educated mothers from the higher social classes were more likely to say they had been asked how they planned to feed the baby than other mothers. However, they were not more likely to say they had discussed feeding methods with anyone, possibly because a high proportion of such mothers would already have decided to breast feed. The relationships shown in Table 6.2 between whether mothers were asked about their plans or discussed feeding and how they planned to feed the baby held for all social class and education groups except mothers educated beyond 18 and mothers in social class I; for these mothers the proportion planning to breast feed amongst those who said they had not been asked how they intended to feed the baby was as high as among those who had been asked and had discussed methods of feeding.

If a mother were merely asked how she planned to feed the baby, possibly so that this could be entered on her hospital record, she would be unlikely to form any impression of the attitudes towards feeding of the person asking her the question. But if there were some discussion about feeding she might be aware of whether the person concerned was in favour of breast feeding or bottle feeding. All mothers who said they had discussed feeding with someone at an antenatal clinic were therefore asked who they had talked to and whether they thought that person would prefer them to breast feed or to bottle feed, or showed no preference either way. This question was asked in respect of each person with whom the mother discussed feeding. The answers to this question can be analysed in terms of where the discussion took place, that is hospital, G.P's surgery or Community Clinic, or in terms of the role of the person with whom the discussion took place, such as doctor, midwife, etc. Since some mothers talked to more than one person, views as perceived by the mother have been summarised and related to her plans for feeding the baby.

Table 6.3 Person with whom mothers discussed feeding by place of discussion

	Hospital	G.P's surgery or clinic	Community Clinic
	%	%	
Doctor	25	61	(2)
Midwife/nurse†	82	45	(12)
Health visitor	-	2	(2)
Dietician/welfare officer	2	-	-
Base: mothers who discussed feeding at antenatal clinics	*126*	*90*	*16*

() *denotes number, not percentage*

† *mainly midwives, but some mothers could not distinguish between midwives and nurses*

Percentages do not add to 100 as some mothers talked to more than one person

Mothers may have attended more than one atenatal clinic

Table 6.3 shows with whom the mothers said they discussed feeding by where the discussion took place.

These results show that at hospital antenatal clinics the midwives were the most likely people to discuss feeding with mothers, whereas at a G.P.s' surgery or clinic the doctor was more likely to take on this role.

We investigated how mothers perceived the views on feeding of the people with whom they discussed the subject, bearing in mind that there is a tendency to perceive other people's views as agreeing with one's own and that the health professionals' expression of their views may have been influenced by their knowledge of the mothers' intentions in respect of feeding. Table 6.4 shows the views of doctors and midwives with whom feeding was discussed as perceived by the mother.

The results for G.P.'s surgeries or clinics have been combined with those for Community Clinics as in both cases the doctors would usually be G.P.s and the midwives would usually be community midwives.

Table 6.4 Mothers' perceptions of preference of doctors and midwives for breast and bottle feeding

	Hospital doctor	Hospital midwife	G.P	Community midwife
	%	%	%	%
Preferred mother to:				
bottle feed	3	2	2	2
breast feed	79	78	75	80
Showed no preference	18	20	23	18
	100	100	100	100
Base: mothers who discussed feeding at antenatal clinics	*32*	*103*	*58*	*53*

Mothers may have discussed feeding with more than one person

The results are remarkably similar for the different people with whom mothers discussed feeding. Few of the staff a antenatal clinics were viewed by mothers who discussed feeding with them as being in favour of bottle feeding, despite the intention of many of these women to bottle feed. The majority were seen as being in favour of breast feeding.

Since some mothers had discussed feeding with more than one person, we summarised the views the mothers perceived before examining their relationship to the mothers' plans for feeding their babies. In summarising the views, if a mother said one person was in favour of breast feeding but another person expressed no preference, we have shown the summarised view as being in favour of breast feeding since we were most concerned with positive influence in favour of either breast or bottle feeding rather than with neutral views. Table 6.5 shows the summarised views of staff in antenatal clinics and, for each category, the proportion of mothers who planned to breast feed.
Mothers who planned to breast feed were more likely to think that the staff they talked to in antenatal clinics were in favour of breast feeding, whereas those who planned to bottle feed feed more often thought that no preference had been expressed. No deductions can be made from these results as to whether any of the health professionals at antenatal clinics directly influenced a mother's choice of method of feeding since a mother's perceptions of views held by professionals may be affected by her own preferences, or the expression of views in any case may be affected by knowledge of the mother's preferences. However, of the 29 per cent of mothers who discussed feeding with someone at an antenatal clinic, the majority were aware that these people generally favoured breast feeding. But the remaining 71 per cent of mothers did not discuss feeding with anyone and were therefore presumably not influenced in their choice by the health professionals in antenatal clinics.

6.2 Antenatal classes

In general within the National Health Service most antenatal clinics advertise antenatal classes of various kinds which mothers can attend to prepare them for the birth and for looking after the baby. Classes are usually run by hospitals or community clinics, but there are also private classes run by organisations such as the National Childbirth Trust and the Red Cross. Classes may include relaxation and breathing exercises to help with labour and the birth, and instruction about various aspects of caring for a newborn baby. Sometimes relaxation and mothercraft classes are run separately, but they are often combined. Classes may be held only

Table 6.5 Proportion of mothers who planned to breast feed, by summarised views of staff in antenatal clinics

	%	% who planned to breast feed	*Base*
Preferred mother to:			
bottle feed	2	-	*5*
breast feed	81	68 %	*166*
Showed no preference	17	59 %	*35*
	100		
Base: mothers who discussed feeding at antenatal clinics	*207*		

in the daytime, but evening classes are becoming more common, so that working women and husbands can attend. Mothers generally attend a series of classes spread over several weeks. Husbands may be invited to certain classes or invited to attend the whole course.

In the survey 61 per cent of mothers having a first baby had attended a course of antenatal classes; a few mothers had attended two different courses. The husbands of 37 per cent of the mothers who attended antenatal classes also went to at least one class. 53 per cent of the classes were held at Community Clinics or G.P's surgeries, 43 per cent were held at hospitals and four per cent were run by other organisations. 85 per cent of the classes were said by mothers to have included talks or discussions about infant feeding, thus 52 per cent of all mothers of first babies had attended classes which had included such talks or discussions. Table 6.6 shows the proportion of mothers who planned to breast feed according to whether or not they attended antenatal classes and whether or not the classes included talks or discussions on infant feeding.

The results indicate that mothers who attended antenatal classes, particularly those which included talks or discussions on infant feeding, were more likely to plan to breast feed than those who had not. However, further analysis showed that better educated mothers and mothers from the higher social classes were more likely to attend antenatal classes; the proportion of such mothers planning to breast feed was higher than among other mothers. Examination of the proportions of mothers planning to breast feed within each social class and education category, according to whether or not they had attended antenatal classes, showed that those who had attended classes were still more likely than those who had not to plan to breast feed. However, these results do not imply any causal relationship between attendance at classes and planning to breast feed. It may be that mothers who have decided to breast feed attend classes in order to learn about the practical aspects of breast feeding.

Although we cannot determine directly from the results of the survey whether or not antenatal classes influence mothers' choice of method of feeding, mothers who attended classes which included talks or discussions on infant feeding were asked what they thought to be the views of the people running the classes. We had wanted to analyse their answers in relation to the profession of the person running the classes, but it was apparent from the pilot study that most mothers did not know whether the person taking the classes was a

Table 6.6 Proportion of mothers who planned to breast feed, by attendence at antenatal classes

	%	% who planned to breast feed	*Base*
Attended classes which included talks or discussions on feeding	52	78 %	*367*
Attended classes with no talks on feeding	9	59 %	*64*
Total attended classes	61	76 %	*431*
Did not attend classes	39	47 %	*280*
	100		
Base: mothers of first babies	*711*		

Table 6.7 Proportion of mothers who planned to breast feed, by views reported by mothers of staff running antenatal classes

	%	% who planned to breast feed	*Base*
Mother thought people running antenatal classes:			
preferred bottle feeding	0	–	*1*
preferred breast feeding	69	81%	*252*
showed no preferences	30	72%	*112*
had conflicting views	0	–	*2*
	100		
Base: mothers who attended classes which included discussion of feeding methods	*367*		

midwife, health visitor, health education officer, etc. so this question was not included in the main survey.

Table 6.7 shows the proportion of mothers planning to breast feed according to the views they reported of the staff running antenatal classes which included talks or discussions on infant feeding.

Over two thirds of the mothers thought the person running the classes had been in favour of breast feeding. These mothers were more likely than mothers who thought no preferences had been expressed to plan to breast feed.

About a quarter of the mothers who attended antenatal classes were shown films about infant feeding. Many of these films are produced by the manufacturers of baby milks or bottles and sterilising equipment. However, only five per cent of these mothers were aware of any bias in favour of bottle feeding in the films. Of the other mothers who had seen a film, half thought it was generally in favour of breast feeding while the remainder of mothers thought no bias towards either method had been apparent. There was no difference in the proportions of mothers planning to breast feed according to whether or not they had seen a film on feeding at antenatal classes .

6.3 Books and pamphlets on infant feeding

We have included a consideration of books in this chapter since the main sources of written material on infant feeding read by mothers were the antenatal clinics. 87 per cent of mothers had read at least one book or pamphlet on infant feeding; many had read several. Although it appeared that mothers who had read about infant feeding were more likely to plan to breast feed, there was no statistically significant relationship once differences in the age at which mothers had finished their education were taken into account. At the pilot stage we asked mothers for details of what they had read, but their answers were too imprecise for the question to be retained. However, it was apparent that the most frequently mentioned publication was 'You and Your Baby'[1], a pamphlet which is issued free of charge to practically every expectant mother at antenatal clinics.

6.4 Summary of the views of health professionals as perceived by mothers

In this chapter we have discussed the main points of contact between the woman who is expecting her first baby and the members of the health professions who might influence her choice of method of feeding her baby. Table 6.5 summarised the views of staff in antenatal clinics; to these we have added the views of other members of the health professions with whom they were in contact as perceived by the mothers, that is, people who ran antenatal classes and any other health professional mentioned by the mother. The summarised views are shown in Table 6.8. The category 'no preferences shown' includes mothers who said that feeding had been discussed but no preferences for either method had been shown by the health professionals concerned, as distinct from mothers with whom feeding was not discussed at all.

---

[1] A Family Doctor Publication of the British Medical Association

Although it is not possible to decide from a retrospective study, whether or not mothers were influenced in their choice of method of feeding by the views of members of the health professions, mothers clearly cannot be influenced to breast feed if feeding is not discussed at all. This was reported to be the case by over a third of mothers. Since many mothers did not attend antenatal classes, and these mothers were particularly likely to choose to bottle feed, it would seem important that the staff of antenatal clinics ensure that feeding is discussed when women attend for routine antenatal examinations, if it is felt that the health professions have a role to encourage breast feeding positively.

Table 6.8 Proportion of mothers who planned to breast feed, by summarised perceived views of health professionals

	%	% who planned to breast feed	*Base*
Generally favouring bottle feeding	1	-	*7*
Generally favouring breast feeding	48	76%	*345*
No preferences shown	14	63%	*100*
Conflicting views	1	-	*7*
Feeding not discussed	36	50%	*253*
	100		
Base: mothers of first babies	*711*		

Chapter 7. Influence of family and friends on choice of method of feeding

Most of the qualifications mentioned in the last chapter with regard to a study of the influence of the health professionals on mothers' choice of method of feeding also apply to the influence of their friends and family. The main difference is that in the former case many mothers will have made a definite choice of method of feeding before they have had any contact with members of the health professions in relation to their pregnancy, whereas many women will be aware of the attitudes of some of their friends and family before they even become pregnant. The prevailing attitudes among the people with whom someone has most contact can be expected to play a major role in the formation of the attitudes of that person.

During the interview mothers were asked what they thought to be the views of those closest to them (ie friend or relative) on how they should feed the baby. We asked specifically about the views of their husband (or for single mothers, of the baby's father if he was in the household), and their own mother, and then asked them to mention anyone else with whom they had discussed how they should feed the baby. They were also asked what method of feeding most of their friends used and how they themselves were fed, if they knew. Thus it was possible to study a number of possible influences on the mothers' choice of method of feeding.

7.1 Husband's views

Of mothers of first babies who were married (or living with the baby's father), 84 per cent said they had talked to their husband about how they planned to feed the baby. A further five per cent said that although they did not discuss feeding with their husband they were aware of his views. The remaining 11 per cent said they had not talked to their husband about methods of feeding and were not aware of his views. All mothers who had discussed feeding with their husband or who were aware of his views were asked whether he thought they should bottle feed or breast feed. The husbands' views, as reported by the mothers, are shown in Table 7.1, together with the proportion of mothers who planned to breast feed according to the views expressed.

Table 7.1 Husbands' reported views on planned method of feeding

	%	% who planned to breast feed	*Base*
Husband thought wife should:			
bottle feed	9	20 %	*61*
breast feed	48	84 %	*320*
do whatever she wanted	32	59 %	*211*
Had no views on feeding/had not talked about feeding	11	53 %	*70*
	100		
Base: married† mothers having first baby	*662*		

†*or living with baby's father*

Remarkably few mothers said their husbands thought they should bottle feed, even though 46 per cent of mothers said they planned to bottle feed. When husbands were reported as having definite views, either in favour of breast or bottle feeding, most mothers' plans were found to be in accordance with these views. However, it could be that the mother's strong views about one method of feeding influenced her husband's views, rather than the other way round. Many mothers said that their husbands had no positive views about how they should feed the baby. These women may be more open to influences from other members of their families or their friends.

7.2 Own mother's views

Some 87 per cent of mothers of first babies said that they were in contact with their own mother during their pregnancy and 49 per cent said they had talked to their own mother about how they should feed the baby; a further 12 per cent said that they were aware of their mother's views in this respect, although they had not actually talked to her. We asked the same questions about their own mother's views as we had asked about the husbands' views. Table 7.2 shows the views reported and the proportion of mothers planning to breast feed according to these views.

Only 11% of these mothers said that their own mothers thought they should bottle feed, whereas a third said that they thought they should breast feed. Mothers' plans were generally in accordance with their own mother's views, although a larger proportion planned to breast feed despite their own mother being in favour of bottle feeding than did so when their husbands favoured bottle feeding.

7.3 Other people's views

Over half (54 per cent) of mothers of first babies said that they had discussed with another person, either in the family or a friend, how they would feed the baby; some had talked to several people. Table 7.3 shows the views of these people and the mothers' planned method of feeding according to the views expressed. If the mother had talked to more than one person and their views differed the views have been summarised to give definite preferences for either breast or bottle feeding priority over neutral views. Conflicting views are shown separately.

Mothers who said that other members of their family or friends thought that they should breast feed generally planned to do so, but views in favour of bottle feeding did not correspond so closely with mothers' intentions, and in the case of conflicting views, most mothers planned to breast feed.

Table 7.2 Own mother's reported views on planned method of feeding

	%	% who planned to breast feed	*Base*
Own mother thought she should:			
bottle feed	11	37 %	*79*
breast feed	34	85 %	*241*
do whatever she wanted	16	60 %	*113*
Had no views on feeding/had not talked about feeding	26	52 %	*188*
Not in contact with mother	13	64 %	*90*
	100		
Base: mothers of first babies	*711*		

Table 7.3 Reported views of other members of family or friends

	%	% who planned to breast feed	*Base*
Others thought she should:			
bottle feed	12	45 %	*85*
breast feed	27	85 %	*192*
do whatever she wanted	9	51 %	*63*
Had conflicting views	6	80 %	*40*
Mother did not talk to anyone else	46	58 %	*331*
	100		
Base: mothers of first babies	*711*		

7.4 Feeding method used by friends

Women expecting their first baby may be influenced in their choice of method of feeding by the method they see used by their friends, even if their friends do not discuss methods of feeding. Nearly all (98 per cent) of mothers of first babies had friends with babies. Table 7.4 shows the method of feeding they planned to use, in relation to the method their friends used. Although the majority of mothers said that most of their friends bottle fed, over half of these mothers planned to breast feed. It does not seem, therefore, that having friends who bottle feed is necessarily a deterrent to breast feeding.

7.5 Method by which the mother was fed

Mothers may be influenced in their choice of method of feeding their own baby by knowledge of how they themselves were fed. Some 91 per cent of mothers knew how they had been fed and 61 per cent said they had been breast fed, although some of these said they had been given a bottle as well. Table 7.5 shows how mothers were themselves fed and the method of feeding they planned to use in relation to how they were fed.

Although the results show an association between the way mothers were themselves fed and the method they chose for their own baby, the relationship is not as marked as those already described in this chapter.

7.6 The combined influence of family and friends

So far several possible influences on mothers' choice of method of feeding have been considered individually, but many of them are likely to be interrelated. For example, many of the women

Table 7.4 Feeding method used by friends

	%	% who planned to breast feed	*Base*
Most friends bottle feed	64	56 %	*457*
Most friends breast feed	23	86 %	*162*
Half friends bottle feed, half breast feed	11	67 %	*76*
No friends with babies	2	(11)	*15*
	100		
Base: mothers of first babies	*711*		

() number, not per cent

Table 7.5 Method by which the mother herself was fed

	%	% who planned to breast feed	*Base*
Mother was bottle fed completely	30	47 %	*211*
Mother was breast fed, at least partly	61	73 %	*435*
Mother did not know how she was fed	9	63 %	*64*
	100		
Base: mothers of first babies	*711*		

who said that their husbands wanted them to breast feed could be expected to say that their own mother and their friends also favoured breast feeding. The maximum likelihood procedure described in Appendix III was used to assess the relationships between the different possible influences and the planned method of feeding, whilst taking into account the interrelationships between the various influences[1]. However, there were not enough cases to be able to look at all five of the factors described so far in this chapter together. Preliminary analysis showed that how the mother herself was fed had the weakest relationship with planned method of feeding, so this variable was not used in the analysis. The category 'most friends breast feed' was combined with 'half friends bottle feed, half breast feed', since having at least some friends who had breast fed would indicate a source of knowledge and possible influence in respect of breast feeding. The views of the various people considered were categorised into 'pro breast feeding', 'pro bottle feeding' and 'other', in order to simplify the analysis and to give precedence to positive views.

The analysis showed that the views of husbands, own mothers, and other people, and the method used by friends each bore a significant and independent relationship to mothers' planned method of feeding. Husbands' views were the most strongly related to planned method of feeding. Own mother's views and views of other people were next and of equal importance while the method friends used was least important, although still significant.

From the results of the analysis described above estimates were made of the proportions of mothers who would be expected to plan to breast feed according to their husbands' views if there were no relationship between the husband's views and any of the other three variables. The calculations were repeated for each of the other variables in turn. The results are shown in Tables 7.6 to 7.9.

Husbands' views in favour of bottle feeding were more closely associated with planning to bottle feed than their views in favour of breast feeding were in relation to planning to breast feed. However, very few husbands were in fact reported as favouring bottle feeding, so this result may not have had as much practical importance as might appear at first sight.

Own mother's and other people's views in favour of breast feeding were more closely related to planning to breast feed than views in favour of bottle feeding were in respect of planning to bottle feed. This result can be viewed as encouraging since it indicates that some mothers can be expected to breast feed despite the contrary views of their own mother or other people among their own family or friends. Such mothers might of course need more support to breast feed successfully. However, it was shown earlier in the chapter that only a minority of mothers reported positive views of friends and family in favour of bottle feeding. It would seem, therefore, that many women plan to bottle feed in the absence of positive influences to breast feed, rather than because they are

---

[1] Details of the results are given in Appendix III

Table 7.6 Estimated proportion of mothers planning to breast feed by husband's views, independent of other variables

	% expected to plan to breast feed
Husband pro breast feeding	80 %
Husband pro bottle feeding	29 %
Other/no views	58 %

Table 7.7 Estimated proportion of mothers planning to breast feed by own mother's views, independent of other variables

	% expected to plan to breast feed
Own mother pro breast feeding	79 %
Own mother pro bottle feeding	49 %
Other/no views	56 %

Table 7.8 Estimated proportion of mothers planning to breast feed by other people's views, independent of other variables

	% expected to plan to breast feed
Others pro breast feeding	78 %
Others pro bottle feeding	51 %
Other/no views	62 %

Table 7.9 Estimated proportion of mothers planning to breast feed by feeding method used by friends, independent of other variables

	% expected to plan to breast feed
Most or some friends breast feed	69 %
Most friends bottle feed	55 %

positively influenced in favour of bottle feeding.

7.7 Experience of watching breast feeding

It has been suggested that one of the reasons that women do not consider breast feeding is that they no longer live in a community where breast feeding is a common sight, and that some mothers would never have seen a baby being breast fed before the birth of their first child. Mothers of first babies were asked whether before their own baby was born they had ever seen a baby being breast fed; 63 per cent of mothers said they had done so. These mothers were then asked how they had felt about watching a baby being breast fed and their answers were assigned to one of three categories: approval (for example 'I thought it was nice actually to see her there feeding the baby', 'It looked so lovely'), neither approval nor disapproval, (for example 'I didn't think about it', 'It didn't bother me at all'), and disapproval (for example 'It made me feel embarrassed, I didn't like it at all', 'I was embarrassed, I didn't like to look'). Table 7.10 shows the proportions of mothers in each category who planned to breast feed.

7.8 Summary and conclusions

The results presented in this chapter show that when allowance has been made for associations between the views about methods of feeding of the various members of mothers' families, mothers' friends and the method friends used for their own babies, the views of husbands were the most closely related to mothers' plans as to which method to use. However, all the other variables mentioned were also significantly related to whether mothers planned to breast feed or bottle feed. The importance of the influence of the people with whom women expecting their first baby have most contact must be taken into account in any health education programme aimed at promoting breast feeding. Encouraging husbands to attend antenatal classes with their wives might be helpful in this respect.

Although over a third of mothers of first babies had not seen a baby being breast fed before their own child was born, the lack of this experience was not found to be significantly related to mothers' choice of method of feeding.

Table 7.10 Mothers' statements about their reactions to watching breast feeding

Mothers' statements indicated:	%	% who planned to breast feed	*Base*
approval	16	90%	*114*
neither approval nor disapproval	31	70%	*220*
disapproval	16	38%	*111*
Total who had seen a baby breast fed	63	67%	*445*
Not seen a baby breast fed	37	60%	*266*
	100		
Base: mothers of first babies	*711*		

It seems that whether mothers had seen a baby being breast fed before the birth of their own baby was not strongly related to their choice of method of feeding, although their reaction to watching breast feeding was associated with their planned method of feeding. The reactions mothers reported are likely to mirror their own attitudes to breast feeding, but the use of this information to provide a measure of mothers' attitudes is limited by the lack of information about the attitudes of the 37 per cent of mothers who said that they had not seen a baby being breast fed before the birth of their own child.

Chapter 8 Attitudes to breast and bottle feeding

An understanding of the attitudes which motivate different women to choose breast or bottle feeding is an essential prerequisite to successful attempts to change attitudes towards breast feeding, and so to encourage more mothers to choose breast feeding. Although mothers were asked in the survey about their reasons for choosing breast or bottle feeding, their answers did not necessarily reveal the beliefs and feelings about methods of feeding underlying their choice of a particular method. Such beliefs are likely to have been built up over the years, influenced by the attitudes, beliefs and practices prevailing among the mother's friends and family, by publicity about infant feeding in the media, by direct contact with members of the health professions and so on. A search of the literature revealed no systematic attempts to identify and measure attitudes to breast and bottle feeding which might help in understanding why mothers choose a particular method and, in particular, why many mothers choose not to breast feed. This chapter describes the attempt made in this survey to identify and measure attitudes to methods of feeding which underlie mothers' choice of method.

8.1 The method used to identify and measure attitudes to breast and bottle feeding

In order to identify attitudes to different aspects of feeding methods, mothers were asked to consider 26 statements about breast and bottle feeding, and to indicate the extent to which they agreed or disagreed with each of the statements. The statements (shown in Appendix II) were based on views expressed by mothers during exploratory interviews and were chosen from a larger number of statements included in the pilot study. A few mothers (one per cent) did not have an adequate command of English to understand the statements completely; they have been excluded from the analysis.

The mothers' answers to the 26 items were analysed by a statistical technique, factor analysis, which groups together items which tend to be answered in the same way and show a relationship with each other. The theory of factor analysis postulates the existence of underlying factors which account for interrelationships between groups of items. Although strictly speaking factors are theoretical concepts, it is helpful to think of them in this case as dimensions of attitudes to methods of feeding.

Details of the factor analysis are given in the annex to this chapter. The analysis produced three uncorrelated factors which could be meaningfully interpreted; that is, mothers' answers to the attitude statements appeared to be associated with three distinct attitude dimensions. The results of the factor analysis show the extend of the association between each attitude statement and each of the three factors. Examination of the statements with the closest associations with each of the three factors enabled us to give the factors names which describe the attitude which each factor appears to be measuring. We show below the statements found to be most closely associated with each of the three factors, and the names we gave to each of the factors.

The three factors identified were broadly consistent with what was to be expected from the main reasons given by mothers for their choice (Chapter 5), and from other studies; for example,

Factor I

Breast feeding is oldfashioned
I couldn't bring myself to breast feed
Breast feeding feels unpleasant
There is no reason to breast feed in our modern society
Breast feeding is messy
I wouldn't want to breast feed in front of an older child
I think there is something animal-like about a woman breast feeding
You can bottle feed anywhere but you have to breast feed at home

Distaste for breast feeding

Factor II

Breast milk is better for babies than bottle milk
You feel much closer to your baby if you breast feed
Breast fed babies are more content than bottle fed babies
Breast fed babies are less likely to get ill than bottle fed babies
Babies prefer the breast to the bottle
Breast feeding is enjoyable for the mother
The idea of breast feeding has always appealed to me

Breast feeding is best for babies

Factor III

If you breast feed you worry about whether you have enough milk
The advantage of bottle feeding is you know exactly how much milk your baby has had
Breast feeding limits your social life
I like to feel I can go out occasionally and let someone else feed the baby
Bottle feeding is easier than breast feeding
You can bottle feed anywhere but you have to breast feed at home

Convenience of bottle feeding

a survey in Newcastle[1] found that many mothers who bottle fed were aware that breast feeding was better for the baby, but were too embarrassed to breast feed or disliked the idea of breast feeding.

From mothers' answers to each item a score was calculated for each mother on each of the three attitude dimensions mentioned above. These factor scores have a mean of zero and a standard deviation of 1.0 for the total sample. High positive scores on factor I indicate a strong distaste for breast feeding, whereas high negative scores indicate the opposite, the strong appeal of breast feeding. High positive scores on factor II indicate a strong belief that breast feeding is best for babies. High negative scores probably indicate a belief that bottle feeding is as good as breast feeding rather than that it is better than breast feeding. For Factor III high positive scores indicate a belief that bottle feeding is more convenient than breast feeding; high negative scores indicate the reverse.

[1] Bacon, C J and Wylie, J M. Mothers' attitudes to infant feeding at Newcastle General Hospital in Summer 1975. *British Medical Journal* 7 Feb 1976 308-309

8.2 The relationships of the attitude measures to choice of method of feeding

Table 8.1 gives the average scores on each factor of mothers of first babies according to their planned method of feeding.

Mothers who planned to breast feed had significantly different scores from mothers who planned to bottle feed on the first two factors, but not on the third. However, the factor scores were derived from information obtained when mothers had already had six weeks experience of feeding a baby and so the mothers' attitudes may have changed as a result of that experience. This was particularly likely to be the case for mothers who had stopped breast feeding in the first six weeks. We therefore compared the scores of these mothers with those of mothers who were still breast feeding at six weeks. These results, together with those for mothers who bottle fed completely, are shown in Table 8.2.

Scores on factor I, 'Distaste for breast feeding', were significantly lower among mothers who were still breast feeding at six weeks than among those who had stopped breast feeding by this time, but this difference was not as great as that between mothers who had breast fed at all and those who had bottle fed completely. Similarly, scores on factor II, 'Breast feeding is best for babies', were higher among mothers breast feeding at six weeks than among those who had stopped, but the biggest difference was between mothers who had breast fed at all and those who had not. It is not possible to tell from these results whether mothers who stopped breast feeding in the first six weeks would have had different scores before the baby was born from those who were still breast feeding at six weeks, that is to say, that their scores would have been predictive of their behaviour, or whether their scores would have changed over time with their experience of feeding. A prospective study would be necessary to determine which explanation

Table 8.1 Mean factor scores of mothers of first babies according to planned method of feeding

		Planned to bottle feed	*Base*	Planned to breast feed	*Base*
I	Distaste for breast feeding	.63	*251*	-.41	*455*
II	Breast feeding is best for babies	-.59	*251*	.40	*455*
III	Convenience of bottle feeding	.08	*251*	-.18	*455*

Table 8.2 Mean factor scores of mothers of first babies according to method of feeding at six weeks

		Bottle fed completely	*Base*	Stopped breast feeding by 6 weeks	*Base*	Breast feeding at 6 weeks	*Base*
I	Distaste for breast feeding	.55	*272*	-.31	*239*	-.55	*195*
II	Breast feeding is best for babies	-.55	*272*	.18	*239*	.71	*195*
III	Convenience of bottle feeding	.16	*272*	.19	*239*	-.42	*195*

of the differences is most likely. However, since mothers who planned to breast feed had significantly different scores on both factors I and II from those who planned to bottle feed, it is likely that these attitudes would be predictive of the choice of method of feeding, even if they changed to some extent with experience of feeding a baby.

Scores on factor III, 'Convenience of bottle feeding', differed significantly between mothers who were still breast feeding at six weeks and those who had stopped. The scores of those who had stopped did not differ significantly from those of mothers who had bottle fed completely. It seems probable that scores on this factor reflect mothers' reasons for stopping breast feeding as much as reasons for not breast feeding at all. Although it is possible that high positive scores on this factor would be predictive of stopping breast feeding before six weeks, the results imply that the attitudes to the convenience of bottle feeding of mothers who stopped breast feeding before six weeks changed as a result of their unsuccessful experience. Only a prospective study can confirm this view, but since it seems likely that scores on factor III would change as a result of experience to a greater extent than scores on factors I and II, the former were not used in subsequent analyses.

Mothers' choice of method of feeding has been shown to be associated with their social class and the age at which they finished their full time education. If their attitudes as measured by their scores on factors I and II were also related to their social class and education, this relationship would need to be taken into account in assessing the association between the scores on factors I and II and planned method of feeding.

Table 8.3 gives the mean scores on factor I, 'Distaste for breast feeding', by the age at which mothers finished full time education, and their planned method of feeding. The results show significant differences in scores on factor I between mothers who planned to breast feed and those who planned to bottle feed, when the age mothers finished full time education was taken into account. In addition, mothers whose education ended at sixteen or under appeared generally to have a greater distaste for breast feeding than those whose education ended later, regardless of the method they planned to use.

Table 8.4 gives the mean scores on factor II, 'Breast feeding is best for babies', by the age at which mothers finished full time education, and their planned method of feeding.

Table 8.3 Mean scores on factor I, 'Distaste for breast feeding', by age mother finished full time education and planned method of feeding

	All mothers of first babies	*Base*	Planned to bottle feed	*Base*	Planned to breast feed	*Base*
Over 18	-.57	*89*	.25	*37*	-.66	*80*
17 - 18	-.35	*118*			-.53	*90*
16	-.02	*191*	.55	*72*	-.37	*119*
Under 16	.21	*307*	.77	*141*	-.26	*166*

Table 8.4 Mean scores on factor II, 'Breast feeding is best for babies', by age mother finished full time education and planned method of feeding

	Total	*Base*	Planned to bottle feed	*Base*	Planned to breast feed	*Base*
Over 18	.37	*89*	-.59	*37*	.49	*80*
17 - 18	.18	*118*			.40	*90*
16	.04	*191*	-.66	*72*	.46	*119*
Under 16	-.08	*307*	-.56	*141*	.32	*166*

The results again show differences in the factor scores of mothers who planned to breast feed and those who planned to bottle feed when mothers' education is taken into account. However, the overall relationship between scores on factor II and mothers' education, apparent for all mothers of first babies, did not hold when the scores of mothers who planned to breast feed and mothers who planned to bottle feed were examined separately.

Scores on factors I and II were not so closely related to mothers' social class as they were to the age at which mothers finished their full time education. The main differences in scores were between mothers in social classes I and II, and other mothers. Among mothers who planned to breast feed, those in social classes I and II had scores on factor I which indicated less distaste for breast feeding than those of other mothers who planned to breast feed, but there was no relationship between social class and scores on factor I among mothers who planned to bottle feed. Scores on factor II showed no relationship with social class when mothers who planned to breast feed and mothers who planned to bottle feed were considered separately.

It appears from the above results that scores on factor I, 'Distaste for breast feeding', and on factor II, 'Breast feeding is best for babies', were more closely related to mothers' choice of method of feeding than the relationships of the scores with mothers' education and social class would have led us to predict. However, knowledge of a mother's background in terms of her education and social class gives some indication of the attitudes she is most likely to hold, which may be of use in designing means of promoting more favourable attitudes to breast feeding.

Scores on factor I, 'Distaste for breast feeding', and factor II, 'Breast feeding is best for babies', were both closely and equally related to mothers' choice of method of feeding. It is important to remember that the two factors were uncorrelated, that is, mothers could have a strong feeling of distaste for breast feeding and nevertheless believe that breast feeding is best for babies, and in such cases it was not possible to predict which attitude would be associated with the method of feeding chosen.

8.3 Embarrassment about breast feeding in front of other people

It was apparent from exploratory work that embarrassment about breast feeding in front of other people was the reason most frequently mentioned by mothers for choosing to bottle feed. We also noticed that some of the mothers who tried breast feeding gave this as a reason for stopping. Since embarrassment was mentioned in answer to open questions, it was not possible to discover to what extent other mothers felt the same, but had not mentioned this to the interviewer spontaneously. We therefore decided to ask mothers directly about their attitudes to breast feeding in front of other people, regardless of whether they had actually breast fed or not.

Mothers were asked whether they would feel embarrassed about breast feeding in each of a number of situations, such as in front of their husband or in front of a girl friend in her own house. The situations were presented in order such that a mother who said she would be embarrassed in one situation would be expected to say she would be embarrassed in all subsequent situations. The situations chosen were: breast feeding in front of her husband, her own mother, a girl friend in the mother's own house, a girl friend in the girl friend's house, a girl friend's husband in the mother's house, and a girl friend's husband in the girl friend's house. However, we found so little difference in respect of answers to the last two situations that we combined them subsequently. Mothers were given a score representing the number of situations in which they would be embarrassed, ranging from 1, not being embarrassed in any of the situations, to 6, being embarrassed in all the situations. Since the situations were scaled as described above, the scores also indicate the particular situations in which mothers would be embarrassed. For example, a score of 3 indicates the mother would be embarrassed to breast feed in front of a girl friend in the girl friend's house or in front of the girl friend's husband, but not in front of her husband, own mother or a girl friend in her own house.

Table 8.5 shows the proportion of women who said they would be embarrassed to breast feed in each of the situations, and the proportion having each 'embarrassment score', as we shall refer to the scores described above.

Only a small proportion of mothers said they would not be embarrassed about breast feeding in any of the situations mentioned and probably some of these mothers would be embarrassed in other situations, for example in public places, yet bottle feeding would be considered acceptable anywhere that the baby itself would be acceptable.

Table 8.5 Proportion of mothers who would be embarrassed to breast feed in various situations and their embarrassment scores

	% who would be embarrassed	Embarrassment score	% with each score
Would you be embarrassed about breast feeding in front of:			
your husband?	7	6	7
your own mother?	18	5	11
a girl friend in your own house?	36	4	18
a girl friend in her house?	48	3	12
a girl friend's husband?	87	2	39
none of these	13	1	13
			100
Base: mothers of first babies	*711*		*711*

Table 8.6 Embarrassment scores by planned method of feeding

	Planned to bottle feed	Planned to breast feed
Embarrassment score	%	%
6 (embarrassed in all situations)	17	2
5	20	6
4	26	14
3	9	12
2	24	47
1 (not embarrassed at all)	4	19
	100	100
Base: mothers of first babies	*253*	*458*

As one might expect, the embarrassment scores were closely related to mothers' planned method of feeding, as shown in Table 8.6. 63 per cent of mothers who planned to bottle feed would be embarrassed to breast feed outside their own home, compared with 22 per cent of those who planned to breast feed, but even among the latter, only 19 per cent would not be embarrassed about breast feeding in any of the situations mentioned. In view of these results it is scarcely surprising that embarrassment featured so often in reasons given by mothers for not breast feeding or for stopping breast feeding. Some mothers also mentioned spontaneously that it was not so much their own feelings of embarrassment as other people's embarrassed reactions to watching them breast feed that constituted the main problem.

An attempt was made to measure systematically mothers' feelings of embarrassment about breast feeding because they were so often mentioned as reasons for not breast feeding or for stopping breast feeding. However, it was not possible to determine from mothers' answers whether their statements about feelings of embarrassment were a mild way of saying that they felt distaste for the idea of breast feeding or whether two distinct attitudes had been identified. Further analyses presented in the next section aim to establish which of the two possibilities is the more likely.

8.4 A comparison of predictors of choice of method of feeding

In this and the previous three chapters several factors were examined which were associated with mothers' choice of method of feeding: social and demographic factors, the views of health professionals, the views of the mother's own family and friends, and her own attitudes to methods of feeding. However, many of these factors were themselves interrelated. In this section the extent of the interrelationships between all the variables are examined, together with the relationships between each variable and mothers' choice of feeding method.

Correlation coefficients were calculated between each of the following variables: scores on factor I (Distaste for breast feeding),scores on factor II (Breast feeding is best for babies), embarrassment scores, the views of husband, mother and other people, the method used by friends, how the mother was fed herself, the summarised views of health professionals, the age at which the mother finished her full time education, social class and mother's age, and between each variable and mother's planned method of feeding. The resultant matrix of correlation coefficients is displayed in Table 8.7.

Table 8.7 Intercorrelations among predictors of choice of method of feeding

	Factor I	Factor II	Embarrassment score	Husband's views	Own mother's views	Other's views	Method of friends	How self fed	Medical views	Education	Social class	Mother's age	Planned method of feeding
Factor I		-.14	.49	.29	.22	.21	.22	.11	.15	.31	.23	.17	.56
Factor II			-.30	-.31	-.26	-.21	-.16	-.19	-.14	-.17	-.14	-.11	-.54
Embarrassment score				.23	.21	.20	.23	.13	.08	.28	.24	.18	.45
Husband's views					.21	.22	.19	.11	.16	.14	.22	.15	.41
Own mother's views						.11	.10	.24	.10	.13	.09	.22	.30
Other people's views							.23	.06	.05	.16	.14	.13	.27
Method friends used								.08	.15	.24	.19	.13	.24
How self fed									.09	.07	.11	.13	.27
Summary medical views										.16	.22	.18	.28
Education											.43	.20	.27
Social class												.36	.22
Mother's age													.21

Scores on factor I, 'Distaste for breast feeding', and factor II, 'Breast feeding is best for babies', showed the highest correlations with mothers' planned method of feeding, followed by the embarrassment scores. However, the latter had a high correlation with scores on factor I and showed a similar pattern of correlations with the other variables to scores on factor I. We take this to mean that the embarrassment scores were measuring essentially the same attitude as that measured by scores on factor I; that is, embarrassment about breast feeding in front of other people is a manifestation of an attitude of distaste for breast feeding.

Husbands' views had the next highest correlation with planned method of feeding, followed by the views of the mother's own mother. These also showed significant correlations with the factor scores, particularly on factor I. It is likely that the formation of mothers' attitudes would be influenced by the attitudes prevailing among their family and friends, and in particular among those closest to them.

Mothers' social class and age showed the lowest correlations with planned method of feeding, but it must be remembered that all the variables chosen have already been shown to be significantly related to choice of method of feeding; this analysis merely attempts to compare them. The results confirm that the age a mother finished her full time education would be expected to be a better predictor of her planned method of feeding than either her social class or her age just after the birth of her first child.

8.5 Implications of the results for health education

As a result of the analyses described in this and the preceding four chapters, this section attempts to suggest possible approaches which might encourage more women to try breast feeding.

Two distinct attitudes have been identified which have been shown to be associated with the choice of method of feeding of mothers of first babies.

These are: a feeling of distaste or attraction for breast feeding, and the belief or absence of the belief that breast feeding is best for babies, from either the physical or emotional point of view. These attitudes have yet to be shown by a prospective study to exist before the birth of the baby and to be predictive of mothers' choice of method of feeding, but for the purposes of this discussion it will be assumed that this will prove to be the case.

The results indicate that although educating expectant mothers about the benefits of breast feeding might be sufficient to persuade some mothers to try breast feeding who would not otherwise have done so, many would be inhibited by a deep-seated distaste for the idea of breast feeding. The roots of a feeling of distaste for breast feeding are likely to have been developed long before pregnancy and will probably be correspondingly difficult to change. Attempts to change such attitudes during pregnancy are not likely to meet with much success. It would seem much more fruitful to consider what might be done to influence the formation of more positive attitudes from adolescence onwards when such attitudes are most likely to be formed. Since the survey showed that mothers who left school at sixteen or under were most likely to have strong feelings of distaste for breast feeding, it might be appropriate to pay particular attention to those adolescents who expect to leave school at the minimum school leaving age. Boys as well as girls should be involved since husbands' views were shown to be associated both with mothers' attitudes and their choice of method of feeding.

However, attitudes to breast feeding probably evolve from attitudes to sexuality generally; the general view in our society of the breast as a sexual object can scarcely be ignored. A recent exploratory study[1] showed associations between women's attitudes to their breasts and their views on breast feeding. Women who bottle fed were found to extend sexual inhibitions regarding their breasts to the practice of breast feeding, whereas women who breast fed were able to overcome the usual inhibitions about displaying their breasts when they were breast feeding. Any health education programme would need to take account of the complexity of attitudes to breast feeding, and further research would probably be needed to study how such attitudes are formed and how they might be changed before any decision could be reached on the most appropriate method of approach to adolescents.

Beliefs about breast feeding being best for babies are partly determined by knowledge of the physiological advantages of breast feeding and as such are more easily changed than attitudes of distaste for the idea of breast feeding. It should be possible to inform women about the medical and nutritional evidence concerning the advantages of breast feeding during pregnancy, if not earlier. However, the emotional advantages of breast feeding are less well established and therefore cannot be presented to women in the same way as the physiological advantages. Many women at present will not be able to overcome feelings of distaste for breast feeding and will therefore choose to bottle feed. Discussion of the benefits of breast feeding to the baby should therefore be presented in such a way that these women are not made to feel guilty about their choice. It is probably more important that both mother and baby are contented than that the baby is breast fed.

Those involved in the health education of women during pregnancy need to be aware that many women who decide to try breast feeding, perhaps because they have been convinced of its advantages to the baby, will nevertheless not feel happy about breast feeding in front of anyone other than their immediate family and in particular outside their own home. Such women are likely to be less well educated and in a lower social class category than others. Women who cannot contemplate breast feeding outside their own home are likely to find that breast feeding restricts their way of life to a far greater extent than would be apparent to less inhibited mothers, who might see an advantage in being able to go out with the baby without having to take bottles and arranging for milk to be warmed.

---

[1] Webb, P unpublished thesis for Health Education Diploma

In view of the importance of husbands' views in relation to mothers' choice of method of feeding, husbands should be involved in health education programmes for pregnant women whenever possible. In practice this may be difficult; women attend antenatal clinics during the daytime when most husbands are at work. Even if antenatal classes are held in the evenings, they are often attended by women who are already most likely to breast feed and therefore cannot be used as the sole source of education about breast feeding.

In this survey we have not been able to assess the importance of mothers' attitudes to the relative convenience of breast and bottle feeding in determining their choice of method of feeding. Such considerations should not of course be ignored in discussions with women about breast feeding. In particular women should be aware of the common problems encountered in breast feeding and how to deal with them in order to help more women breast feed successfully, since, as Chapter 4 showed, this will have an important bearing on how any subsequent children mothers may have are fed.

Chapter 9 Predicting duration of breast feeding

One of the main aims of the survey listed in Chapter 1 was to investigate why many women stop breast feeding after a short time. In this chapter we examine the extent to which the duration of breast feeding could be predicted from information about mothers which would have been available before the baby's birth, in order to give an indication of which mothers might be in most need of help and advice when starting breast feeding.

9.1 Mothers who did not feed as planned

The previous four chapters have considered factors affecting whether or not mothers planned to breast feed, while the next five chapters are concerned with those mothers who in fact attempted to breast feed. However only six per cent of all mothers did not feed their baby as they said they had intended: two per cent tried breast feeding although they had planned to bottle feed and four per cent bottle fed although they had intended to breast feed. The former group generally said they had changed their minds after the baby was born or had been persuaded by the nursing staff to try breast feeding; the latter most frequently said they had been unable to breast feed because of medical problems affecting either the baby or themselves. However, we noted that mothers who said they had been unable to breast feed a previous child or children for medical reasons were more likely than other mothers to give the same reason again. Whether these mothers were particularly prone to complications at the birth affecting either mother or baby, or whether they preferred to give medical reasons as acceptable excuses for not breast feeding is not clear. Mothers who had previously breast fed at least one child were more likely than other mothers to carry out their intention of breast feeding.

9.2 Social and demographic correlates of duration of breast feeding

Chapter 3 examined a number of variables which related to the incidence of breast feeding. In this chapter we consider all the mothers who started breast feeding, and discuss the same variables (whether or not the baby was a first birth, social class, age at which mother finished full time education and region in which the baby was born) in relation to the length of time for which these mothers breast fed.

Table 9.1 gives figures for duration of breast feeding for all mothers who fed initially, and for mothers of first and later babies separately.

Over half the mothers in the sample who had breast fed at all had stopped doing so by six weeks; only 26 per cent were still breast feeding at four months. A higher proportion of mothers of first than of later babies stopped breast feeding in the first two weeks, but there was no difference between the two groups at later points in time.

Tables 9.2 to 9.4 show figures for duration of breast feeding by social class, age at which mothers finished full time education and the region in which the baby was born.

Table 9.1 Proportion of mothers who breast fed initially and who were still breast feeding at ages up to 6 months, by whether first or later birth

	Mothers who breast fed	Mothers who breast fed: First births	Mothers who breast fed: Later births
	%	%	%
Birth	100	100	100
1 week	82	78	86
2 weeks	69	65	73
4 weeks	53	50	55
6 weeks	46	44	49
3 months	30	29	31
4 months	26	26	26
6 months	18	19	16
Base†: mothers who breast fed initially	*789*	*438*	*350*

†See note on reweighting, 1.8 p5.

Table 9.2 Proportion of mothers who breast fed initially who were still breast feeding at times up to 6 months by social class

	I	II	IIInm	IIIm	IV&V
	%	%	%	%	%
Birth	100	100	100	100	100
1 week	90	86	81	80	72
2 weeks	84	76	70	64	59
4 weeks	71	63	57	43	41
6 weeks	68	58	49	36	36
3 months	43	42	36	20	17
4 months	38	37	32	16	14
6 months	23	25	26	10	10
Base†: mothers who breast fed initially	*90*	*187*	*91*	*288*	*99*

†See note on reweighting, 1.8 p5.

Table 9.3 Proportion of mothers who breast fed initially who were still breast feeding at times up to 6 months by age mother finished full time education

	Over 18	17-18	16	Under 16
	%	%	%	%
Birth	100	100	100	100
1 week	92	82	82	76
2 weeks	85	73	68	60
4 weeks	74	57	51	41
6 weeks	73	49	45	33
3 months	51	34	31	17
4 months	43	33	24	16
6 months	36	23	13	11
Base†: mothers who breast fed initially	*144*	*149*	*197*	*299*

† *See note on reweighting, 1.8 p5.*

Table 9.4 Proportion of mothers who breast fed initially who were still breast feeding at times up to 6 months by region

	London and South East	South West and Wales	Midlands and East Anglia	North
	%	%	%	%
Birth	100	100	100	100
1 week	82	88	80	78
2 weeks	70	76	68	65
4 weeks	56	58	50	46
6 weeks	47	48	46	39
3 months	31	30	29	23
4 months	28	30	25	16
6 months	18	23	17	9
Base†: mothers who breast fed initially	*318*	*101*	*158*	*211*

† *See note on reweighting, 1.8 p5.*

A higher proportion of women with husbands in non-manual than in manual occupations were breast feeding at most points in time up to six months. Differences between the four education groups were also apparent at most points in time. The results for the four regions were less clear, although it seemed that mothers in the North breast fed for shorter periods of time than mothers in the other regions. The results for all mothers who breast fed, for the five social class categories and for the four education groups are illustrated in Figures 9.1 to 9.3.

Fig 9.1 Proportion of mothers who breast fed at all who were still breast feeding at ages up to 6 months

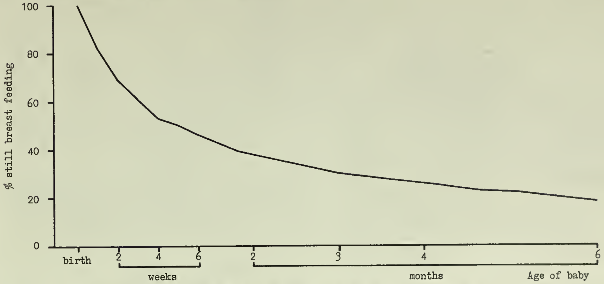


Fig 9.2 Proportion of mothers who breast fed at all who were still breast feeding at ages up to 6 months by social class

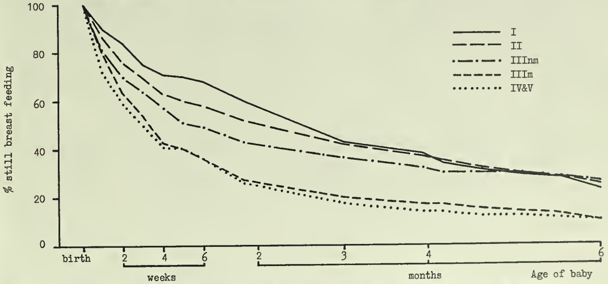
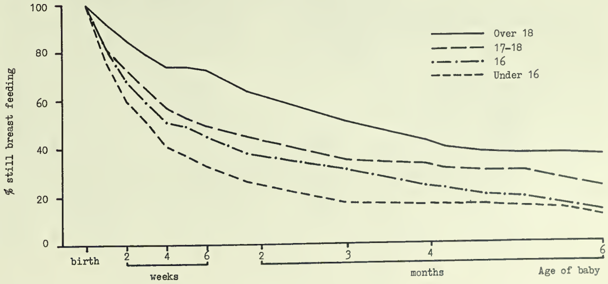


Fig 9.3 Proportion of mothers who breast fed at all who were still breast feeding at ages up to 6 months by age finished full time education



However, as Chapter 2 showed, all the variables described above are interrelated and so differences between some of the groups shown may be due in part to their relationships with other variables. In order to take account of the interrelationships between variables in relation to duration of breast feeding a maximum likelihood analysis similar to that described in Chapter 3 was carried out for results at two points in time: six weeks and four months, that is to say, at the times when mothers were interviewed[1].

The results indicated that the age at which mothers finished their full time education and their social class were significantly and independently related to the proportions of mothers who breast fed at all who were breast feeding at both six weeks and four months. However, region and whether the baby was a first birth or did not show significant relationships at either point in time.

Tables 9.5 and 9.6 show estimates derived from the analysis of the proportions of mothers who breast fed at all who would be breast feeding at six weeks and at four months for the different social class and education categories, taking into account chance fluctuations in the results, particularly those due to small numbers in some cells.

9.3 The effect of previous experience on duration of breast feeding

Chapter 4 showed that the experience that mothers of more than one child had had of feeding their previous children was a major influence on their choice of method of feeding the sampled baby. A relationship has already been shown between previous experience and whether or not mothers carried out their intention of breast feeding (Section 9.1). We now investigate whether taking account of previous experience of breast feeding, or lack of it, can improve the predictions of the proportions of mothers who would be expected to be breast feeding at six weeks and four months.

Table 9.5 Estimated proportion of mothers who breast fed at all who would be expected to be breast feeding at 6 weeks by social class and education

Age finished full time education:	Social class: Non- manual	 Manual
Over 18	75%	63%
17-18	54%	40%
16	54%	40%
Under 16	44%	30%

Table 9.6 Estimated proportion of mothers who breast fed at all who would be expected to be breast feeding at 4 months by social class and education

Age finished full time education:	Social class: Non-manual	 Manual
	%	%
Over 18	45%	24%
17-18	40%	21%
16	34%	17%
Under 16	27%	13%

---

[1] Details of the analysis are given in Appendix III

Table 9.7 Effect of previous experience on duration of breast feeding sampled baby

Sampled baby still breast fed at age:	Never breast fed before	Longest time previously breast fed: Less than 2 weeks	>2 weeks -6 weeks	>6 weeks -4 months	More than 4 months
	%	%	%	%	%
1 week	76	74	87	97	92
2 weeks	57	58	68	88	88
4 weeks	37	34	42	70	82
6 weeks	32	24	32	62	80
3 months	23	20	14	21	73
4 months	16	20	11	11	71
6 months	6	12	11	4	52
Base†: mothers with previous children who breast fed sampled baby	*62*	*48*	*67*	*83*	*83*

† *See note on reweighting, 1.8 p5.*

Table 9.7 shows the relationship between the longest time for which mothers of more than one child had previously breast fed and the length of time for which those who breast fed at all breast fed the sampled baby.

Mothers who had previously breast fed a child for more than six weeks were significantly more likely than other mothers to be breast feeding the sampled baby at six weeks. A large proportion of the mothers who had previously breast fed for between six weeks and four months (often for three months) stopped breast feeding the sampled baby between six weeks and three months. Mothers who had previously breast fed for longer than four months were significantly more likely than other mothers to breast feed the sampled baby for longer than three months. There was no significant differences between mothers who had previously breast fed for less than two weeks and those who had not breast fed at all. Nor were there any differences between these two groups and mothers who had previously breast fed for between two and six weeks, after the first two weeks. These results are illustrated in Figure 9.4. Results for all mothers of more than one child who had previously breast fed for six weeks or less have been combined. Results for first births are given for comparison.

Since the main differences among mothers of more than one child were between those who had previously breast fed for longer than six weeks and those who had breast fed for a shorter period of time or not at all, for subsequent analyses these mothers were divided into two groups on this criterion of the success of their previous experience of breast feeding.

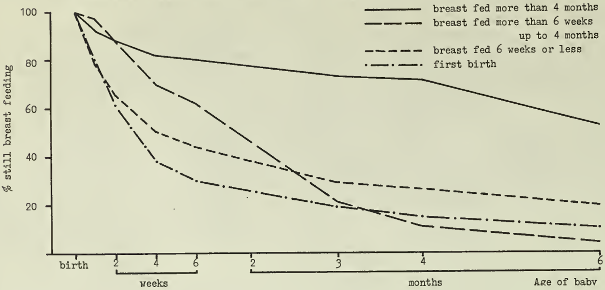
9.4 Predicting the proportion of mothers breast feeding at six weeks

The maximum likelihood analysis described in the previous section[1] was repeated for all mothers, those with more than one child being divided into two groups on the basis of whether or not they had previously breast fed for longer than sex weeks. The results showed feeding at six weeks was not significantly related to the region in which the baby was born, but was significantly related to all the other variables.

Each variable contributed an independent effect on the proportion of mothers breast feeding at six weeks. The

[1] Details of the analysis are given in Appendix III

Fig 9.4 Proportion of mothers who breast fed at all who were still breast feeding at ages up to 6 months, by previous experience of breast feeding



largest difference in the proportions of mothers of sampled babies who were still breast feeding at six weeks was between those who had previously breast fed a child for longer than six weeks and those who had either breast fed for a shorter time or who had bottle fed previously. Mothers of first babies were significantly less likely still to be breast feeding at six weeks than mothers who had previously breast fed for longer than six weeks. The age at which mothers finished full time education was the variable next most closely related to the proportion of mothers still breast feeding at six weeks; mothers who were educated beyond eighteen were significantly more likely to be breast feeding at six weeks than others mothers. Mothers whose husbands were in non-manual occupations were also more likely than other mothers to be breast feeding at six weeks.

Table 9.8 shows estimates of the proportions of mothers who would be expected to be breast feeding at six weeks for each category of each variable, if fluctuations due to chance were eliminated.

Table 9.8 Estimated proportions of mothers who breast fed at all who would be expected to be breast feeding at 6 weeks

Age mother finished full time education	Social class	First births	Later births	
			Previously breast fed for 6 weeks	Not previously breast fed for 6 weeks
Over 18	Non-manual	72%	88%	61%
	Manual	58%	81%	46%
17-18	Non-manual	52%	76%	40%
	Manual	37%	64%	26%
16	Non-manual	53%	77%	41%
	Manual	38%	65%	28%
Under 16	Non-manual	42%	68%	31%
	Manual	28%	54%	19%

9.5 Predicting the proportion of mothers breast feeding at four months

A similar maximum likelihood analysis[1] was carried out for the results at four months. Because follow-up interviews were not conducted with all the mothers, the results at four months are based on fewer interviews, so the measure of mothers' education used was whether or not they had continued their education beyond sixteen years of age, without any further subdivision of ages.

The results showed that although all the variables except the region of the baby's birth were significantly related to the proportion of mothers breast feeding at four months, the relationships were not all independent. There was an interaction between social class and not having previously breast fed for longer than six weeks. This result can be interpreted as meaning that women whose husbands were in manual occupations were more likely than others to be adversely affected by not having previously breast fed for longer than six weeks. The age mother finished full time education, however, showed an independent relationship with the proportion of mothers still breast feeding at four months.

Table 9.9 shows estimates of the proportions of mothers who would be expected to be breast feeding at four months for each category of each variable, if chance fluctuations were eliminated.

9.6 Summary and conclusions

Although 51 per cent of all mothers attempted to breast feed, over half of those who tried had stopped during the first six weeks; more than a quarter had stopped in the first two weeks. Mothers of first babies and mothers of more than one child who had not previously breast fed for longer than six weeks were particularly likely to stop breast feeding in the first two weeks. Knowledge of mothers' social class and education, together with their previous experience of breast feeding or lack of it enable the prediction of which mothers are most likely still to be breast feeding at six weeks and four months.

The results presented in this chapter emphasise that it is not sufficient to persuade mothers to attempt to breast feed in order to increase the prevalence of breast feeding. Attention needs to be paid to the high proportion of mothers who stop breast feeding in the early weeks, particularly in the first two weeks. The results of the survey may be used to help identify mothers most in need of help and advice about breast feeding in the early weeks.

Table 9.9 Estimated proportions of mothers who breast fed at all who would be expected to be breast feeding at 4 months

Age mother finished full time education	Social class	First births	Later births	
			Previously breast fed for 6 weeks	Not previously breast fed for 6 weeks
Over 16	Non-manual	34%	57%	32%
	Manual	23%	36%	3%
16 or under	Non-manual	23%	44%	22%
	Manual	15%	24%	6%

[1] Details of the analysis are given in Appendix III

Chapter 10 Reasons given by mothers for stopping breast feeding

Chapter 9 showed that 74 per cent of mothers who had attempted to breast feed had stopped before the four months currently recommended. As a first step to understanding why this happened, the reasons given by mothers for stopping breast feeding were examined. If mothers had stopped breast feeding either before the first interview at six weeks, or between the first interview and the second interview at four months, they were asked by the interviewer about their reasons for stopping. The interviewers wrote down exactly what was said, and could ask for amplification or clarification of answers if necessary; they also checked that mothers mentioned all their reasons for stopping. The postal questionnaire sent out at six months asked mothers who had stopped breast feeding by that time to say why they had stopped, but for these replies ther was no opportunity to ask for clarification of answers or to ensure that all reasons for stopping had been covered. Mothers who stopped after six months were not asked about their reasons for stopping.

Because of the different methods by which answers were obtained, the reasons for stopping breast feeding given by mothers who stopped before the second interview at four months and those given by mothers who stopped between then and six months are not directly comparable; mothers tended to give more reasons when questioned by an interviewer than they gave on the postal questionnaires. Table 10.1 shows the reasons given by mothers for stopping breast feeding before the first interview, between the first and second interviews and between the second interview and the postal questionnaire at six months. All the reasons have been included, regardless of their importance or the fact that sometimes reasons were causally related to one another.

The most frequently mentioned reason given by mothers for stopping breast feeding was insufficient milk. Answers included in this category ranged from those of mothers who said their milk had dried up completely to those who assumed that the baby's crying indicated hunger and therefore that they did not have enough milk to satisfy it. The most common answer was that the mother did not have enough milk and so had to give bottles as well, and preferred bottle feeding completely to doing both. A few mothers thought that the quality rather than the quantity of their milk was the source of their problems, and commented that their milk 'had no goodness in it'. Answers coded in the category 'baby wouldn't suck/rejected the breast' included both cases where the baby never established the technique of sucking at the breast and those where the baby had been given a bottle after breast feeding had started and came to prefer the bottle to the breast. Domestic reasons overlapped to a certain extent with embarrassment about breast feeding in front of other people and with being unable to leave the baby to be fed by others. Reasons such as moving house or needing to give more attention to the other children were included in this category.

It was apparent when mothers' answers were examined in detail that most gave one main reason for stopping breast feeding; the other reasons were either clearly mentioned as being subsidiary to the main reason or were part of a casual chain of reasons leading the mother to

Table 10.1 All reasons given by mothers for stopping breast feeding

	Stopped by first interview (6 weeks)	Stopped between first and second interview (4 months)	Stopped between second interview and 6 months
	%	%	%
Insufficient milk	61	71	46
Painful breasts or nipples	19	8	6
Baby wouldn't suck/rejected the breast	12	7	11
Mother had inverted nipples	7	-	-
Mother ill	8	11	4
Baby ill	4	2	4
Had breast fed long enough/ as long as planned	1	13	30
Breast feeding tiring/taking too long	9	9	8
Domestic reasons	6	12	7
Embarrassment	4	6	-
Baby can't be fed by others	3	10	-
Didn't like breast feeding	3	-	1
Going back to work	0	5	-
Other reasons	8	11	10
Base: mothers who breast fed for six months or less	*416*	*167*	*76*

Percentages do not add to 100 as some mothers gave more than one reason

stop breast feeding. We examined all the reasons given by the mothers for stopping breast feeding and identified what we considered to be the main reason. As illustrations of the procedure adopted, we show below some of the mothers' answers and have underlined what seemed to us to be the main reason given for stopping breast feeding.

'Because my nipples were bleeding and cracked and so the baby wasn't getting enough milk. I tried putting lotion on but it didn't help so I had to stop breast feeding him.'

'My breasts were tender and I suppose this put me off a bit, but my real reason for stopping was the inconvenience when I went out.' (This mother would not feed the baby in front of her friends and so had to return home to feed.)

'Basically I wasn't comfortable doing it I didn't like the sensation of it and also my stitches were hurting so much ..... and I felt I couldn't tell how much she was getting ..... she would wake up crying within two hours and it was exhausting me.'

'I had food poisoning and I couldn't feed him properly. My milk diminished and I had to top him up with bottles and so I went over to bottle feeding properly.'

Table 10.2 shows the main reason for stopping breast feeding given by mothers at the first interview, the second interview and the postal follow-up at six months.

Insufficient milk was the most frequently given main reasons for stopping breast feeding by all three

Table 10.2 Main reason given by mothers for stopping breast feeding

	Stopped by first interview (6 weeks)	Stopped between first and second interview (4 months)	Stopped between second interview and 6 months
	%	%	%
Insufficient milk	54	66	38
Painful breasts or nipples	12	4	6
Baby wouldn't suck/rejected the breast	9	4	11
Mother had inverted nipples	6	–	–
Mother ill	5	9	3
Baby ill	2	3	4
Had breast fed long enough/as long as planned	1	5	25
Breast feeding too tiring/ taking too long	1	1	1
Domestic reasons	2	1	5
Embarrassment	2	1	–
Baby can't be fed by others	1	1	–
Didn't like breast feeding	2	–	–
Going back to work	0	3	–
Other reasons	3	2	7
	100	100	100
Base: mothers who breast fed for six months or less	*416*	*167*	*76*

groups of mothers, even by mothers who stopped breast feeding between four and six months, although a quarter of this group said they had breast fed for as long as they had planned.

Problems generally associated with starting breast feeding, such as inverted nipples, painful breasts or nipples and difficulties in getting the baby to take the breast, featured as important reasons for stopping breast feeding by six weeks. Since the reasons mothers stop breast feeding in the first few weeks are of particular interest, we show separately in Table 10.3 the main reasons given for stopping breast feeding by mothers who stopped in the first week, in the second week and after two weeks but before the first interview at six weeks.

The reasons mothers gave for stopping breast feeding were examined to try to discover what might be done to help more mothers to breast feed for longer periods of time. The first six reasons listed can be considered to be 'physical reasons' and the others to be 'personal or social' reasons. Whether mothers stop breast feeding for personal or social reasons is largely determined by their individual circumstances and their attitudes to breast feeding, neither of which could be expected to be changed easily once breast feeding has started. However, only a small proportion of the mothers who stopped breast feeding before four months gave personal or social reasons as their main reasons for stopping, although, as was apparent from Table 10.1, such reasons were given as additional reasons for stopping.

Table 10.3 Main reason given by mothers for stopping breast feeding in the first 6 weeks

	Stopped in the first week	Stopped in the second week	Stopped after 2 weeks but before first interview (6 weeks)
	%	%	%
Insufficient milk	38	57	65
Painful breasts or nipples	13	18	7
Baby wouldn't suck/rejected the breast	15	6	5
Mother had inverted nipples	14	4	1
Mother ill	7	6	4
Baby ill	2	1	2
Had breast fed long enough/as long as planned	-	-	1
Breast feeding too tiring/taking too long	-	1	2
Domestic reasons	1	2	2
Embarrassment	2	2	2
Baby can't be fed by others	0	1	3
Didn't like breast feeding	5	-	0
Going back to work	-	-	1
Other reasons	2	1	4
	100	100	100
Base: mothers who stopped breast feeding before the first interview	*145*	*98*	*172*

The majority of mothers who gave physical reasons for stopping breast feeding had problems that can be considered as potentially preventable. In the next three chapters factors associated with some of these problems will be examined with a view to finding out how they might be prevented, so that fewer mothers would stop breast feeding in the early weeks. Some of the problems, such as a severe illness of either the mother or the baby, may necessarily lead to the cessation of breast feeding, but problems such as insufficient milk, painful breasts or nipples and sucking not being well established might in many cases be prevented or treated without their causing mothers to abandon breast feeding. We do not wish to imply that in all cases such problems could have been prevented and that all mothers who gave these reasons for stopping could have breast fed for longer; nevertheless, it seems unlikely that, for example, such a high proportion of mothers as we found were really incapable of producing enough milk for their babies.

Chapter 11 Events surrounding birth, starting breast feeding and failure in the first two weeks

This chapter describes events occurring around the time of birth, that is, labour, delivery and the period immediately following, and attempts to identify factors associated with difficulties in starting breast feeding and in particular those which influenced mothers to stop breast feeding in the first two weeks of the baby's life.

11.1 The mechanism of breast feeding[1]

There are two essential prerequisites for successful breast feeding: that the mother should have an adequate supply of milk available to the baby and that the baby should be able to obtain the milk from the breast. Considering the first of these, an adequate supply of milk, the expectant mother's breasts develop during pregnancy in preparation for lactation. During the latter part of pregnancy and immediately after the birth a high protein fluid called colostrum is present in the breasts. The baby feeds on colostrum for the first two to four days, until the milk starts being produced. It is important that the baby should feed on colostrum during this period for three reasons: colostrum contains antibodies which protect the baby from infection, allowing the baby to suck regularly to remove the colostrum stimulates the breasts to produce milk and, in addition, colostrum is a source of nourishment similar in composition to the maternal blood supplying the placenta.

Once the milk starts being produced, the baby taking the breast to remove the milk stimulates the production of more milk. It is thought that frequent feeds during the first few days in particular are beneficial as a stimulus to milk production and to prevent engorgement (the condition of the breast being painfully distended with milk) by not allowing the breasts to become overfull and also by avoiding the necessity for prolonged sucking at any one feed which might cause sore nipples.

The second prerequisite for successful breast feeding is that the baby should be able to obtain milk from the breast. There are three means by which the baby does this, sucking being the least important. The baby squeezes the nipple and the tissue round its base (the areola) with his tongue and jaws. This has two effects: one is to squeeze milk directly into his mouth and the other is to trigger the 'milk-ejection reflex' (sometimes called the 'let-down reflex'). The baby squeezing the nipple and areola causes a nervous impulse to reach the brain which triggers the secretion of a hormone from the pituitary gland into the blood stream. This causes contractile cells in the breasts to contract, forcing the milk out into the milk ducts and thence out via the nipple. This mechanism works on both breasts at the same time and so milk often flows from the breast from which the baby is not feeding. It can cause quite a forceful expulsion of milk from the breast, as is apparent if for some reason the baby removes his mouth from the breast soon after feeding has started, causing the milk to shoot out in spurts. If the reflex does not operate the baby receives little milk. It can be inhibited by fear or tension in the mother and so it is important that the mother is relaxed during breast feeding, particularly during the first few days when the mechanism is being established. The breast feeding process is not completely instinctive; mother and baby have to learn the technique and can easily be upset during the first few days. The technique needed by a baby to feed from a bottle is rather different from that required in breast feeding and demands less responsiveness on the part of the baby. A baby that has learnt to feed from a bottle may therefore have difficulty in learning to feed from the breast. It is thought that a baby learns to feed from the breast most easily soon after birth and that problems regarding the baby's learning to take the breast may occur if there is a long delay after birth before breast feeding is attempted. If the baby is too sleepy to take the breast properly, this may also interfere with the establishment of sucking.

---

[1] This description is based on that given by Dr Mavis Gunter in *'Infant Feeding'* Methuen, (London 1970) pp 114.

This chapter will examine factors occuring before a mother first attempts to breast feed which might affect either her ability to provide an adequate supply of milk for the baby or the baby's ability to obtain the milk, and which might thereby cause her to stop breast feeding in the first week or two after the birth.

11.2 How soon the baby was put to the breast

The sucking reflex and lactation are most easily established if the baby is put to the breast as soon after the birth as possible. Table 11.1 shows for all babies who were breast fed at all, the time mothers estimated had elapsed between the birth and the baby being first put to the breast. Most mothers were able to remember at what time they first breast fed the baby as it was generally at one of the set hospital feeding times.

The results show that three quarters of the babies had not been put to the breast within four hours of the birth. Although mothers were not asked directly whether they had attempted to put the baby to the breast while still in the delivery room it would seem that few could have done so since so few had made an attempt to breast feed within an hour of the birth.

Table 11.1 Length of time till baby first put to the breast

	%
Immediately	3
Within 1 hour (but not immediately)	8
After 1 hour up to 4 hours	13
After 4 hours up to 8 hours	23
After 8 hours up to 12 hours	17
After 12 hours up to 24 hours	23
After 24 hours	12
	100
Base: mothers who breast fed initially	*789*

That most mothers had the opportunity to put their baby to the breast soon after the birth is shown by the results presented in Table 11.2, which gives the time mothers estimated had elapsed before they first held the baby.

Table 11.2 Length of time till mothers who breast fed first held their babies

	%
Immediately	49
Within ½ hour (but not immediately)	20
After ½ hour up to 1 hour	4
After 1 hour up to 4 hours	4
After 4 hours up to 8 hours	6
After 8 hours up to 12 hours	6
After 12 hours up to 24 hours	5
After 24 hours	6
	100
Base: mothers who breast fed initially	*789*

Three quarters of these mothers had held their baby within four hours of the birth and so would have had the opportunity to put the baby to the breast if they had wanted to do so or if it had been suggested to them.

If it is important that babies are put to the breast as soon after the birth as possible, a relationship would be expected between how soon the baby was first put to the breast and whether or not mothers stopped breast feeding in the first week or two of the baby's life. This is shown in Table 11.3.

The results give some indication that mothers who breast fed their babies within four hours of the birth were less likely than other mothers to stop breast feeding in the first two weeks. Mothers who did not breast feed their babies for more than 24 hours were significantly more likely to stop in the first two weeks.

Any relationship between how soon the baby was first put to the breast and whether the mother stopped breast feeding in the first two weeks should be reflected in the proportions of mothers who ceased breast feeding either because the baby did not establish sucking or because the mother did not produce enough milk, although the latter could be linked to other aspects of the establishment of breast feeding. Table 11.4 shows the proportions of mothers who stopped breast feeding in the first two weeks for these two reasons according to how soon they first put the baby to the breast. For comparisons the results are also given for mothers who stopped breast feeding because of painful breasts or nipples, which would not be expected to relate to how soon the baby was first breast fed.

Table 11.3 Proportion of mothers stopping breast feeding in the first week, and the first 2 weeks, by how soon the baby was put to the breast

Interval before baby first put to breast:	% stopped breast feeding: first week	first two weeks	*Base (mothers who breast fed initially)*
Within 1 hour	14%	24%	*94*
After 1 hour up to 4 hours	13%	20%	*103*
After 4 hours up to 8 hours	18%	28%	*183*
After 8 hours up to 12 hours	19%	28%	*134*
After 12 hours up to 24 hours	20%	38%	*183*
After 24 hours	26%	45%	*91*

Table 11.4 Proportion of mothers stopping breast feeding within 2 weeks for three different reasons, by how soon the baby was first breast fed

Interval before baby first put to breast:	% stopping within 2 weeks because baby wouldn't suck	% stopping within 2 weeks because of insufficient milk	% stopping within 2 weeks because of painful breasts	*Base (mothers who breast fed initially)*
Within 1 hour	1%	12%	4%	*94*
After 1 hour up to 4 hours	1%	10%	2%	*103*
After 4 hours up to 8 hours	2%	12%	6%	*183*
After 8 hours up to 12 hours	7%	9%	6%	*134*
After 12 hours up to 24 hours	4%	20%	3%	*183*
After 24 hours	7%	20%	5%	*91*

Although the differences between the percentages are rather small, the results show some evidence that a higher proportion of mothers stopped breast feeding in the first two weeks because the baby would not suck if the baby was first fed more than eight hours after the birth and a higher proportion of mothers stopped in the first two weeks because of insufficient milk among mothers who did not feed their baby until more than twelve hours after the birth.

If a delay in putting the baby to the breast causes problems in the baby learning to suck, mothers might be expected to report difficulties of this nature, even if they did not subsequently stop breast feeding for the same reason. Mothers were asked whether the first time they breast fed, the baby had any difficulty in sucking. The 30 per cent of mothers who reported some difficulty were asked what the difficulty was and 20 per cent of the mothers said that the baby had had difficulty getting hold of the nipple and sucking correctly. 11 per cent said that the baby was too sleepy to suck properly and one per cent gave other reasons. Table 11.5 shows the proportions of mothers who reported any difficulties in sucking at the first feed according to how soon the baby was first fed, and then separately for the two main types of difficulty, on the basis that any relationship with how soon the baby was first breast fed should be confined to difficulties in establishing the technique of sucking rather than the baby being too sleepy to suck.

A higher proportion of mothers reported difficulties with sucking at the first feed if the baby had not been breast fed within eight hours of birth than if it had, and this relationship was mainly attributable to those babies who had difficulty in establishing the technique of sucking rather than those who were too sleepy to suck. The above relationships between how soon babies were first put to the breast and the proportion of mothers who stopped breast feeding in the first two weeks and the proportion of babies who had difficulties in establishing sucking indicate that efforts should be made to ensure that breast feeding is initiated as soon after the birth as is practicable, bearing in mind the condition of both mother and baby after the birth.

11.3 Avoidable delays in starting breast feeding

It can be argued that some delays before mothers first breast feed are unavoidable because of the condition of either the mother or the baby. That some of the delays could be attributed to hospital routine practices seemed apparent when the time of day when the babies were first put to the breast was examined. Mothers were asked at what time the baby was born and how long afterwards they first put the baby

Table 11.5 Proportion of mothers reporting difficulties in sucking at the first feed by how soon the baby was first breast fed

Interval before baby first put to breast:	% reporting any difficulties in sucking	% reporting difficulty in getting attached	% reporting difficulties because baby was sleepy	*Base (mothers who breast fed initially)*
Within 1 hour	23%	14%	10%	*94*
After 1 hour up to 4 hours	24%	14%	11%	*103*
After 4 hours up to 8 hours	25%	17%	10%	*183*
After 8 hours up to 12 hours	33%	20%	15%	*134*
After 12 hours up to 24 hours	38%	27%	13%	*183*
After 24 hours	39%	32%	8%	*91*

to the breast. From this information the time of the first feed could be determined, except in the case of mothers who did not breast feed for more than twenty four hours as they were not asked for the exact length of time that had elapsed before they first breast fed. Information on the computer was not in an appropriate form to determine the time of the first feed so a random sample of interview schedules was examined, and the times of the first attempts to breast feed calculated clerically. Figure 11.1 illustrates their distribution over the day.

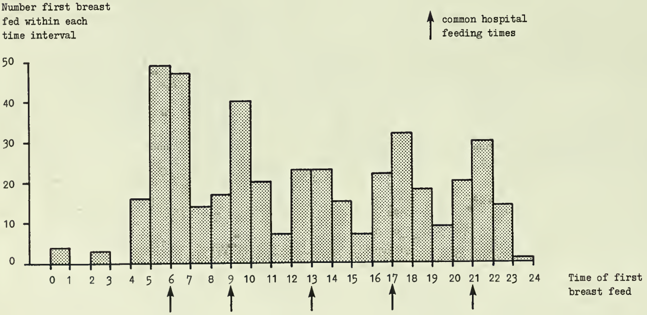
Figure 11.1 shows clearly that few babies were first breast fed during the night; those that were were put to the breast immediately after delivery. Most first feeds occurred around the times which most hospitals adopted as standard feeding times, ie 6.00, 9.00, 13.00, 17.00 and 21.00 (indicated by the arrows). Thus how soon the babies were first put to the breast depended in part on the time of birth in relation to the hospital feeding times; babies born in the morning were generally put to the breast fairly soon as there were several feeds during the day time. Babies born in the late afternoon or evening who had not been put to the breast by the time of the 21.00 feed often had to wait a further nine hours, until 5.00 or 6.00 the next morning before being put to the breast. Mothers of these babies presumed that the nurses gave their babies a bottle during the night if necessary.

If the importance of the early initiation of breast feeding is accepted, then it is clear that some delays could be avoided by more positive efforts on the part of hospital staff to help mothers start breast feeding as soon as possible rather than waiting for a set feeding time.

11.4 Intervention in the process of labour and delivery

The early part of lactation depends on hormone production during labour, which can be affected by interventions in the process of labour. In addition, drugs administered to the mother during labour may be passed via the placenta to the baby and may thus affect the baby's ability to establish the technique of breast feeding. This section examines the extent to which the events of labour and the delivery

Fig. 11.1 **Time of first breast feed for a sample of 431 mothers who first breast fed within 24 hours of birth**



were associated with delays in starting breast feeding, so that any associations can be taken into account in assessing the relationship between such events and the early cessation of breast feeding.

The mothers were asked a series of questions about their labour and delivery. The reader is referred to the copy of the interview schedule included in Appendix II for the exact wording of the questions used. The interviewers were carefully briefed on this topic so that the information obtained was as accurate as possible. Nevertheless, it is particulary important to recognise the limitations of mothers' knowledge of the nature of any intervention in the processes of labour and delivery and the reason for it.

Tables 11.6 to 11.9 give details of some of the events of labour and delivery for the mothers who breast fed. Similar tables for the whole sample are given in Appendix V.

Table 11.6 shows whether the mothers who breast fed at all said that their labour had started spontaneously, whether it had been induced or whether they had gone into hospital to have a Caesarean delivery (an elective Caesarean). Most mothers who said that their labour was induced reported that they had been given a drip (which probably contained oxytocin), usually in conjunction with an artificial rupture of the membranes (ARM, breaking the waters). A small proportion of mothers said their labour had been induced by tablets† together with ARM. For the purposes of later analyses these two types of induction were combined. A few mothers reported that labour had been induced by the administration of castor oil or an enema. These mothers are not shown in the category 'induced labour'.

Mothers who said that their labour started spontaneously were asked whether or not they had been given anything to assist the progress of labour. We cannot be sure that in all cases mothers knew when this had occurred; mothers knew that they had had a drip, but it might have contained saline or glucose rather than something to accelerate labour. However, most mothers seemed definite that some intervention had occurred so these mothers are shown as a separate group despite the reservations mentioned.

Table 11.7 shows the type of analgesia or anaesthesia reported by the mothers who breast fed to have been given during labour. Mothers were asked about what

Table 11.6 The onset and progress of labour of mothers who breast fed at all

	%
Spontaneous onset of labour without intervention	53
Spontaneous onset of labour with acceleration by drip	17
Induction of labour by drip, with or without ARM	26
Induction of labour by tablets† and ARM	2
Elective Caesarean Section	2
	100
Base: mothers who breast fed initially	*789*

---

†Mothers did not know what the tablets were, but seemed convinced that they induced labour. They might have been buccal pitocin.

they had been given to ease the labour pains, and care was taken by the interviewers to exclude local anaesthetics in the perineum from the answers.

Table 11.7 Analgesia/anaesthesia during labour for mothers who breast fed at all

	%
Pethidine or similar	64
Inhalation analgesia ('gas and air')	56
Epidural block	10
Other medicine or tablets	2
General anaesthetic	6
Nothing	8
Base: mothers who breast fed initially	*789*

Percentages do not add to 100 as some mothers had more than one type.

Since many mothers had more than one type of analgesia (usually both pethidine and inhalation analgesia) it would be difficult to examine the effects of each type on the establishment of breast feeding. The different types were therefore arranged in order of their likely effect on the mother and baby, and for subsequent analyses the type of analgesia most likely to show any effect was used. Clearly, general anaesthetic would be on one extreme and no analgesia at all on the other. The small proportion of mothers who said they had had other medicines or tablets generally did not know what they had been given, making it difficult to take account of the likely effect of such drugs in the analysis. If they had been given in conjunction with another type of analgesia they were ignored, otherwise they were included with pethidine and similar drugs. After general anaesthesia, pethidine was considered to be the most likely to show an effect, followed by inhalation analgesia and then epidural anaesthesia, although since the last two rarely occurred together the order in which they are considered is unimportant.

Table 11.8 shows the type of delivery of mothers who breast fed. Since the information was obtained from the mothers, no distinction between different types of forceps deliveries was possible.

Table 11.8 Type of delivery for mothers who breast fed at all

	%
Normal delivery	79
Forceps or vacuum extraction	15
Caesarean Section	6
	100
Base: mothers who breast fed initially	*789*

Any problems during labour or delivery are likely to be reflected in the proportion of babies requiring admission to a special care baby unit. Mothers at some hospitals reported that the hospital had a policy of putting all babies not born by normal delivery into a special care unit for observation for 24 hours, thus the admission of a baby to a special care unit did not always imply that something was wrong with the baby. Some babies were admitted to a special care unit several days after the birth, for example, because jaundice had developed. Since this chapter is concerned with delays in starting breast feeding, Table 11.9 shows the proportion of babies admitted to a special care unit within four hours of birth and who were subsequently breast fed. (80 per cent of babies who went to a special care unit at all were admitted within four hours of birth).

Table 11.9 Admission to special care baby unit within 4 hours of birth for babies who were breast fed at all

	%
Admitted to special care within 4 hours of birth	18
Not admitted to special care within 4 hours of birth	82
	100
Base: mothers who breast fed initially	*789*

11.5 The events of labour and delivery in relation to starting breast feeding

The variables described above are themselves interrelated, and these interrelationships must be taken into account in assessing the relationship between the variables and when breast feeding was initiated. The maximum likelihood procedure described in Appendix III was used to study the relationship between the events of labour and delivery described in Tables 11.6 to 11.9 and whether or not the baby was first put to the breast within eight hours of birth[1]. (Eight hours was chosen because roughly half the babies had been put to the breast by this time.) Less than one per cent of mothers said they had had a general anaesthetic which was not associated with a Caesarean delivery. This small group was omitted from the analysis.

The analysis showed that each of the variables (onset and progress of labour, analgesia/anaesthesia during labour, method of delivery and admission to special care within four hours of birth) exerted a significant and independent effect on the proportion of babies who were breast fed within the first eight hours of birth. The largest difference was between mothers who had Caesarean deliveries and those who had normal deliveries, the latter being significantly more likely to have breast fed their baby within the first eight hours.

Another large difference was between mothers whose babies were admitted to a special care baby unit in the first four hours and those whose babies were not.

Smaller, but significant differences were found between mothers who had normal deliveries compared with forceps or vacuum extractions, the former breast feeding sooner, and between those who had been given pethidine compared with those who had only had inhalation analgesia, the latter more often starting breast feeding within eight hours of the birth. Mothers who had no analgesia at all did not differ from those who had an epidural block in respect of how soon they first breast fed, and both these groups of mothers were less likely to first breast feed within eight hours than mothers who had only had inhalation analgesia, but more likely to do so than those who had pethidine.

The manner in which labour started was of least importance, but elective Caesareans were not included in the analysis as there were too few of them.

In order to simplify the interpretation of the results of this analysis, estimates have been made of the proportions of mothers who would be expected to breast feed their baby within eight hours of the birth for each category of the variables used in the analysis, taking into account the interrelationships between the variables and allowing for chance fluctuations in the data. The estimates are shown in Table 11.10.

Table 11.10 Estimated proportions of mothers who would be expected to breast feed within 8 hours of birth, by aspects of labour and delivery

Onset of labour:	
spontaneous, no intervention	55%
spontaneous, assisted	42%
induced	42%
Analgesia:	
pethidine	48%
inhalation analgesia	62%
epidural	58%
nothing	54%
Delivery:	
normal	53%
forceps or vacuum extraction	36%
Caesarean	8%
Admitted to special care unit within 4 hours	12%
Not admitted to special care unit within 4 hours	55%

---

[1] Details of this analysis are given in Appendix III

The above analysis has established that having a Caesarean delivery and the baby being admitted to a special care unit within four hours of birth were the two factors most closely associated with mothers not breast feeding within eight hours of the birth, but some of the other variables also showed significant, although smaller effects. The next section examines whether there were any associations between the events of labour and delivery and duration of breast feeding which were not attributable to the relationships between these events and delays in starting breast feeding.

11.6 The events of labour and delivery in relation to duration of breast feeding

It can be argued that babies who were admitted to a special care baby unit were in most cases either small or ill, and would therefore be expected to have difficulties with breast feeding, quite apart from any caused by delays in starting breast feeding associated with the need for special care. If this were the case, a higher proportion of the mothers of such babies would be expected to stop breast feeding in the first two weeks than mothers of other babies when account is taken of the differences in the time before breast feeding started for each group.

Table 11.11 shows the proportion of mothers who stopped breast feeding in the first two weeks for babies who were admitted to a special care unit within four hours of the birth and for those who were not, according to how soon they were first breast fed. It must be remembered that the mothers of some of the babies who required special care and who needed tube or drip feeding did not carry out their intention of breast feeding.

Although the numbers involved are small, the results indicate that mothers whose babies were admitted to a special care unit within four hours of birth, but who first breast fed within twelve hours were no more likely than other mothers to stop breast feeding in the first two weeks. Clearly such babies were not in need of prolonged drip or tube feeding and so were probably among the less severely ill of those who required special care. Mothers who first breast fed between twelve hours and twenty four hours after the birth were more likely to stop breast feeding in the first two weeks if their baby had been admitted to a special care unit within four hours of birth, but this difference was not apparent for those who did not breast feed for longer than twenty four hours. Presumably in the latter case there were other complications causing a delay in the initiation of breast feeding that did not require the baby's admission to special care, for example, the medical condition of the mother. However, we have no information about the mother's condition after the birth other than her own report which was considered too unreliable and too difficult to compare with that of other mothers to be used in this analysis.

Table 11.11 Proportion of mothers who stopped breast feeding within 2 weeks, by whether baby went to special care unit within 4 hours and how soon it was first breast fed

How soon baby was breast fed:	% of mothers who stopped breast feeding within 2 weeks:				
	Baby went to special care within 4 hours	*Base*	Baby did not go to special care within 4 hours		*Base*
Within 1 hour	22%	*24*	23%	24%	*90*
After 1 hour up to 4 hours			19%		*98*
After 4 hours up to 8 hours			28%		*180*
After 8 hours up to 12 hours			30%		*121*
After 12 hours up to 24 hours	47%	*54*	35%		*130*
After 24 hours	46%	*61*	46%		*30*

Mothers who had Caesarean deliveries were bound to experience a delay after the birth before being able to start breast feeding as they needed time to recover from the operation. But babies born by Caesarean section were much more likely than other babies to be admitted to a special care unit and admission to the unit would be more likely in any case to cause a delay in starting breast feeding. There were too few mothers who breast fed at all who had Caesarean deliveries and whose babies were not admitted to a special care unit for any further analysis to be carried out on the relationship between this type of delivery and whether or not mothers stopped breast feeding in the first two weeks.

To examine the effects of other aspects of labour and delivery on the proportion of mothers who stopped breast feeding in the first two weeks whilst allowing for any relationship between these factors and how soon the baby was first put to the breast, a further maximum likelihood analysis was carried out on results for mothers who neither had a Caesarean delivery nor whose babies were admitted to a special care unit within four hours of birth[1]. No relationship was found between the onset and progress of labour, analgesia/anaesthesia during labour or method of delivery and the proportion of mothers who stopped breast feeding in the first two weeks when the time at which the babies were first put to the breast was taken into account.

11.7 Birthweight

Low birthweight babies are known to be 'at risk' and to present feeding difficulties, and may need to be fed by a drip or tube until they are strong enough to be breast or bottle fed. Mothers wishing to breast feed such babies may need to express their milk regularly to maintain the supply until breast feeding can be started. Many of the mothers in the survey decided not to do this and to bottle feed instead. For those babies who were breast fed, the relationship was examined between birthweight (as reported by the mother) and whether or not the mother stopped breast feeding in the first two weeks.

Table 11.12 gives the distribution of the birthweights of the babies who were breast fed at all and the proportion of mothers who stopped breast feeding within the first two weeks for the different ranges of birthweight. The results show that mothers of babies who weighed under 3000g at birth were more likely than other mothers to stop breast feeding within the first two weeks, but there was no relationship between birthweight and stopping breast feeding in the first two weeks above this weight. Most of the low birthweight babies were admitted to a special care unit. It was not possible to determine from the results of the survey whether delays in starting breast feeding and the separation of mother and baby caused by admission to a special care unit or the condition of the baby were most important in contributing to early failure of breast feeding among mothers of low birthweight babies.

11.8 Conclusions

The results presented in this chapter have demonstrated a relationship between how soon the baby was put to the breast and success of breast feeding in the first two weeks. Every effort should therefore be made to ensure that breast feeding is initiated as soon after the birth as is compatible with the condition of the mother and the baby. Some effect on the success of breast feeding was apparent with delays in starting breast feeding of four hours; delays of longer than twenty four hours led to a poor prognosis for breast feeding, although some mothers were nevertheless successful. Although some delays in starting breast feeding were attributable to the condition of the mother or the baby, for example, the mother having a Caesarean delivery or the baby being admitted to a special care unit, the results concerning the timing of the first attempt to breast feed indicated that in many cases no attempt was made to initiate breast feeding until the next feeding time on the ward arrived.

---

[1] Details of this analysis are given in Appendix III.

Table 11.12 Proportion of mothers who stopped breast feeding within 2 weeks by babies' birthweight (as reported by mothers)

	%	% who stopped breast feeding within 2 weeks	*Base*
Under 2500g	4	45%	*34*
2500 - 2999g	17	36%	*131*
3000 - 3499g	42	29%	*330*
3500 - 3999g	28	29%	*222*
4000g and over	9	31%	*71*
	100		
Base: mothers who breast fed initially	*789*		

Many of the events of labour and delivery were associated with a delay in the initiation of breast feeding, although whether this was due to the condition of the mother or the baby resulting from the events, or whether problems during labour had necessitated intervention could not be determined. The effect of the events of labour and delivery on the duration of breast feeding could be accounted for by associated delays in the initiation of breast feeding rather than by any independent effects.

Chapter 12 Breast feeding in hospital

Most of the babies in the sample (96 per cent) were born in hospital, therefore most of the mothers who tried breast feeding at all made their first attempts while they were in hospital. Hospital staff and hospital practices might be expected to play a major part in influencing the subsequent course of breast feeding. This chapter examines what the mothers reported about their experiences in hospital, particularly about the hospital practices they encountered and the help and advice about breast feeding they said they received whilst in hospital. The relationship between some hospital practices and duration of breast feeding is also considered.

12.1 Duration of stay in hospital

Table 12.1 shows the length of time mothers who breast fed at all stayed in hospital. Mothers of first babies stayed in hospital on average for longer than mothers of second and subsequent babies, therefore the results are shown separately for these two groups.

The longer a mother stays in hospital the more important the way breast feeding is managed in the hospital is likely to be in relation to whether or not the mother breast feeds successfully. Table 12.2 shows the proportion of

Table 12.1 Length of stay in hospital for mothers of first and later babies who breast fed at all

	All mothers who breast fed	Mothers of first births who breast fed	Mothers of later births who breast fed
	%	%	%
Less than 2 days	2	0	4
2 days	13	4	26
3 days	5	2	8
4 days	5	3	7
5 days	8	9	7
6 days	11	12	9
7 days	14	17	10
8 days	13	15	10
9 days	8	10	4
10 days	16	20	10
Over 10 days	6	8	5
	100	100	100
Base: Hospital births breast fed at all	*761*	*435*	*326*

Table 12.2 Proportion of mothers stopping breast feeding within 2 weeks by length of stay in hospital and whether first or later birth

Proportion of mothers who stopped breast feeding within 2 weeks:

Length of stay in hospital	Total	*Base*	First births	*Base*	Later births	*Base*
2 days or less	17%	*116*	32%	*42*	15%	*97*
3 days	34%	*36*			38%	*27*
4 days	26%	*36*			35%	*70*
5 days	38%	*60*	39%	*38*		
6 days	38%	*81*	37%	*50*	38%	*31*
7 days	29%	*108*	29%	*76*	30%	*32*
8 days	31%	*98*	34%	*66*	29%	*47*
9 days	44%	*59*	48%	*44*		
10 days	30%	*119*	32%	*86*	19%	*48*
Over 10 days	28%	*49*	37%	*34*		

mothers who stopped breast feeding in the first two weeks according to their length of stay in hospital. Because of the differences in their lengths of stay in hospital and the higher proportion of mothers of first than later babies who stopped breast feeding in the first two weeks, results for mothers of first and of later babies are given separately.

The results do not indicate a strong relationship between the proportion of mothers who stopped breast feeding in the first two weeks and length of stay in hospital. The only significant difference was between the mothers who stayed in hospital for two days or less and other mothers: a smaller proportion of the former stopped breast feeding in the first two weeks. This difference persisted when mothers of second and subsequent babies were considered alone, since few mothers of first babies left hospital after such a short time. However, these results do not take account of whether mothers had stayed in hospital longer than they had originally expected, due to the condition of either the mother or the baby. These mothers would be expected to be more likely than other mothers to stop breast feeding in the first two weeks. We had intended to look at the above results for mothers who stayed in hospital for the length of time they had been booked to stay before the birth, but so many mothers were unsure about this length of time that the analysis was not feasible. Some discrepancies between the time mothers actually stayed in hospital and the time they expected to stay were due to a system that mothers mentioned was used in many hospitals of counting days starting from twelve noon; babies born at 11.55 were then often discharged a day earlier than babies born at 12.05, although they had both been booked for the same length of stay.

12.2 Method of feeding on discharge from hospital

To establish what proportion of mothers stopped breast feeding while still in hospital mothers were asked what method of feeding they were using on discharge from hospital. The proportion of mothers who were breast feeding on discharge is a function both of the proportion who attempted to breast feed and the proportion who stopped breast feeding while still in hospital. We therefore show the latter as a separate category rather than including them with mothers who bottle fed from the start (Table 12.3).

A higher proportion of first than later babies were breast fed on discharge from hospital, but the figures conceal the fact that a higher proportion of mothers of first than of later babies stopped breast feeding while still in hospital.

Table 12.3 Method of feeding on discharge from hospital by whether first or later birth

	Total	First births	Later births
	%	%	%
Breast feeding completely	33	38	29
Breast and bottle feeding	8	10	7
Total breast feeding on discharge	41	48	36
Stopped breast feeding in hospital	9	14	5
Bottle fed from birth	49	39	59
Total bottle feeding on discharge	58	53	64
	100	100	100
Base: hospital births	*1491*	*707*	*783*

If we consider only mothers who attempted to breast feed, the proportion who stopped breast feeding while still in hospital was 18 per cent; the corresponding proportions for mothers of first and later births were 22 per cent and 13 per cent respectively. Mothers who stopped breast feeding in hospital as a proportion of all mothers who attempted breast feeding is probably a more useful statistic for monitoring the effect of changes in the management of breast feeding on maternity wards than is the proportion of mothers breast feeding on discharge, since the latter also reflects the proportion of mothers who decide to try breast feeding at all.

12.3 Feeding schedules

A study carried out in 1952[1] demonstrated the superiority of a self-demand feeding schedule over a rigid schedule for the establishment and maintenance of breast feeding for normal babies. It showed that demand feeding generally led to short frequent feeds in the early days of breast feeding, but the feeds become less frequent as breast feeding became established. Mothers in the survey who breast fed at all were asked whether, while they were in hospital, they had fed the baby on demand or kept to set feeding times. 64 per cent of these mothers said they had kept exactly to the hospital set feeding times, which were generally at four hourly intervals for normal babies, 13 per cent said that although there were set feeding times they did not keep to them all the time, and 23 per cent said that they breast fed on demand. (A few of these did not start demand feeding for the first day or so because the baby was too sleepy, but demand fed thereafter.) It was clear that mothers did not always interpret the term 'demand feeding' in exactly the same way. Many mothers referred only to the situation during the day and did not demand feed at night as the baby was in a nursery. However, for the purposes of the following analysis, the results for all mothers will be considered together, and will be combined with those for mothers who did not always keep to the set feeding times. This group of mothers are referred to as mothers who adopted a flexible as opposed to a rigid feeding schedule.

Table 12.4 shows the proportions of mothers who stopped breast feeding in the first two weeks, by whether they adopted a flexible or rigid feeding schedule whilst in hospital. Mothers who adhered to a rigid schedule were rather more likely to stop breast feeding in the first two weeks than mothers who adopted a flexible schedule. Differences between these groups of mothers were still apparent when mothers' previous experience of breast feeding was taken into account (Table 12.5).

---

[1] Illingworth, R S and Stone, D G H. *The Lancet* 5 April 1952, p 683.

Table 12.4 Proportion of mothers who stopped breast feeding within 2 weeks by type of feeding schedule

	%	% who stopped breast feeding within 2 weeks	*Base*
Rigid schedule	64	33%	*458*
Flexible schedule	36	23%	*259*
	100		
Base: mothers in hospital more than 12 hours who breast fed at all	*719*		

Table 12.5 Proportion of mothers who stopped breast feeding within 2 weeks by type of feeding schedule and previous experience of breast feeding

	% who stopped breast feeding within 2 weeks:			
	No previous experience of breast feeding	*Base*	Previous experience of breast feeding	*Base*
Rigid schedule	40%	*288*	22%	*170*
Flexible schedule	30%	*181*	14%	*77*

Table 12.6 Proportion of mothers who stopped breast feeding within 2 weeks by type of feeding schedule and length of stay in hospital (more than 12 hours)

	% who stopped breast feeding within 2 weeks					
In hospital:	13 hrs- 4 days	*Base*	5-8 days	*Base*	9 days or more	*Base*
Rigid schedule	24%	*106*	36%	*161*	36%	*191*
Flexible schedule	22%	*31*	26%	*112*	26%	*116*

The length of time mothers were in hospital, and therefore adhering to a particular feeding schedule, was also of relevance. Mothers who stayed in hospital longer than four days were more likely to stop breast feeding in the first two weeks if they adhered to a rigid rather than a flexible feeding schedule (Table 12.6).

In order to find out whether individual mothers were deviating from the hospital's general policy on feeding schedules, mothers were asked whether they were adhering to the same feeding schedule as other mothers who were breast feeding. Seven per cent of mothers who breast fed said that they did not adopt the same feeding schedule as other breast feeding mothers; most of these breast fed on demand while other mothers kept to set time, but a few mothers had had to keep to set times because their babies were particularly small or sleepy and needed to be woken in order to have sufficient feeds.

The above results provide some evidence of an association between adherence to a rigid feeding schedule and stopping breast feeding in the first two weeks. If this were the case, adherence to a rigid feeding schedule would be expected to be associated with stopping breast feeding because of insufficient milk rather than for any other reason, since insufficient stimulation of the breast over a period of time would be expected to affect the amount of milk produced. A slightly higher proportion of mothers who adhered to a rigid schedule stopped breast feeding in the first two weeks because of insufficient milk than mothers who adopted a flexible schedule, but the differences between the two groups was not statistically significant.

Mothers were asked what they thought about the hospital policy on feeding schedules. Of the mothers who breast fed 31 per cent expressed definite criticism of the system adopted, which was in most cases a rigid schedule. They objected to being told to leave a hungry baby crying until the correct feeding time and also to having to wake a sleeping baby for a feed. In both cases it was often difficult to get the baby to feed properly. Amongst the remaining answers, we could not separate those which were in favour of the hospital system from those that were neutral. Many of the answers were of the kind: 'I thought it was alright - I suppose they have to have a routine'. Many answers gave a strong impression that mothers felt the routine was for the benefit of the nurses rather than for the mother or the baby.

12.4 Contact between mother and baby

According to mothers' reports, hospitals varied considerably in respect of whether babies stayed in a cot next to the mother's bed for the whole of both day and night or whether the baby was removed to a nursery for some of the time. Moreover, the practice adopted by a particular hospital often varied after mothers had been in hospital for a certain number of days. Mothers were therefore questioned about the extent to which they had their babies with them over the whole of the first week, or the time they were in hospital if this were less than a week. A small number of mothers who stayed in hospital for twelve hours or less were not asked these questions and have been excluded from the analysis. Table 12.7 shows, for mothers who were still in hospital and still breast feeding on each day, the extent to which they had their babies with them during the first week.

The proportion of mothers having their babies with them at night as well as during the day increased over the week, and particularly over the first four days. This reflects the practice reported by mothers in many hospitals of keeping babies in a nursery at night for the first two or three nights in order to let the mother rest. Some hospitals were reported as also extending this

Table 12.7 Proportion of mothers who were breast feeding whose babies were with them for different parts of each day of the first week

	Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7
	%	%	%	%	%	%	%
Baby with mother all the time	4	12	19	27	29	31	32
Baby with mother during daytime only	49	55	54	48	46	44	44
Baby with mother part of daytime only	32	22	18	15	14	14	14
Baby in nursery/special care all the time	15	11	9	10	11	11	10
	100	100	100	100	100	100	100
Base: mothers still breast feeding and still in hospital on each day	*757*	*731*	*608*	*559*	*512*	*445*	*364*

practice to part of the daytime, for example during mothers' meal or rest times. As far as we could determine, babies were only in a nursery or special care unit for the whole day if either the mother or baby were unwell. Mothers whose babies were in a nursery or special care unit sometimes did not start breast feeding for the first few days until either they or the baby were well enough.

The high proportion of mothers whose babies were with them for only part of the first day appeared to be due in part to the practice reported by mothers of keeping the baby in a nursery for some hours after the birth to allow the mother to recover from the birth. This was particularly likely to happen if the baby were born in the late afternoon or evening. Such babies were frequently kept in a nursery until the next morning. Unless the baby had been put to the breast in the delivery room the mothers would first attempt to breast feed at the early morning feed.

On any one day during the first week the majority of mothers who were in hospital and still breast feeding on that day did not have their baby beside them for the whole twenty four hours. Close proximity between the baby's cot and the mother's bed is important in relation to breast feeding in so far as it increases the opportunity for mothers to breast feed on demand. In theory a nurse could bring the baby to the mother whenever it needed attention, but in practice most mothers whose babies spent part of the day in a nursery said that the babies were taken there at particular times of the day and were brought back at set times, usually for feeding at four hourly intervals. Babies were sometimes brought to mothers to be fed at night, but this practice was rare for the first two or three nights. In many cases mothers said that the nurses bottle fed all the babies at night throughout their stay in hospital.

12.5 Giving bottles of milk to breast fed babies

There are two possible reasons why the practice of complementing breast feeds in the first few days with bottles of artificial milk on a routine basis might have a detrimental effect on the establishment of breast feeding. Firstly, babies who are given complementary bottles of milk may stimulate the breast insufficiently to ensure an adequate supply of milk in the following days. Secondly, obtaining milk from a bottle requires a somewhat different and less demanding technique on the part of the baby from that required to obtain milk from the breast. Babies who become used to being fed from a bottle may find it difficult to learn the technique of taking the breast, or even if the technique does not present a problem they may come to reject the breast in favour of a bottle.

Mothers were asked questions about the extent to which their babies had been given bottles of milk in the first week. They were asked whether the baby had been given a bottle before they first attempted to breast feed but so many mothers did not know, particularly when there had been a long delay before breast feeding started, that this information could not be used.

Table 12.8 shows, for mothers who were still breast feeding and still in hospital on each day of the first week, the extent to which their babies received bottles of milk in addition to being breast fed. Bottles containing boiled water or glucose solution, which were sometimes given on the first day or so, were not included. Results for the first day are less reliable than for other days since mothers did not always know whether the nurses had given the baby a bottle.

The results indicate the widespread use of bottles of milk in addition to breast feeding during the first week for mothers in hospital. Only by the seventh day were more than half of the mothers breast feeding entirely; 22 per cent were still giving a bottle at every feed. Some mothers breast fed entirely on one day but gave a bottle another day, consequently only 14 per cent of all mothers who breast fed at all and who were in hospital gave no bottles of milk during the first week.

Some mothers mentioned that the nurses or midwives had told them that the reason it was necessary for them to give

Table 12.8 Proportion of breast fed babies given bottles of milk while in hospital on each day of the first week

	Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7
	%	%	%	%	%	%	%
Breast feeding entirely	23	24	26	37	43	47	54
Breast feeding + bottle at night only	14	17	18	17	18	16	16
Breast feeding with some bottles during the day	7	7	7	7	8	8	7
Breast and bottle at every feed	35	40	39	34	27	25	22
Breast feeding not yet started	20	12	9	5	4	3	2
	100	100	100	100	100	100	100
Base: mothers still breast feeding and still in hospital on each day	*757*	*731*	*608*	*559*	*512*	*445*	*364*

bottles of milk in addition to breast feeding, at least for the first few days, was that no milk is produced at first, and that milk production gradually increases over the next few days. The baby must be given extra milk to ensure that it has sufficient and does not lose too much weight before the mother is able to produce enough milk herself. In some cases it will no doubt be true that the mother's secretion is inadequate for the baby's needs, but the above argument appears to ignore the fact that a normal baby is born with food reserves which may suffice for the first two or three days and should not require extensive complementary feeding. It also ignores the fact that colostrum is secreted and is an important food, and that as colostrum secretion diminishes the production of milk takes over from about the third to fourth day onwards.

Another effect, mentioned by some mothers, of having a bottle of milk provided at each feed was to undermine their confidence in their ability to produce enough milk. Other mothers said that they felt the baby preferred the bottle when both breast and bottle were offered at the same feed.

> 'I thought he seemed to take to the bottle much more than to me.'

> 'She was more eager for the bottle.'

Such feelings contributed in some cases to a decision to stop breast feeding.

It was not possible to discover from the results of the survey whether or not giving bottles of milk to breast fed babies contributed to the early failure of breast feeding, and in particular to mothers stopping because they had insufficient milk. We could not determine whether complementary bottles were given because they were necessary in a particular case, or because they were given routinely in a particular hospital. According to the mothers' reports the latter seemed frequently to be the case. Although giving bottles of milk might interfere with the mothers' ability to produce an adequate supply of breast milk, some mothers might not manage to establish an adequate supply whether or not they gave bottles. However, it would be difficult to establish that this was the case if bottles were given routinely.

12.6 Privacy for breast feeding

In view of the embarrassment of many mothers about breast feeding in front of other people discussed in Chapter 8, privacy for breast feeding in hospital or the lack of it might be an important issue for some mothers. All mothers who breast fed and who were not in a single room (85 per cent of mothers) were asked whether they were screened from other people whilst breast feeding or not, and whether they minded about the arrangement. Of these mothers 62 per cent said they were screened off whilst breast feeding whereas 38 per cent were not. However, only six per cent of mothers objected to the arrangement they experienced, most of these saying they would have preferred not to have been screened off. These results do not necessarily imply that most mothers would prefer to be screened off while breast feeding. It seems likely that the majority of mothers were content with whatever was the established practice in the hospital they were in. Possibly mothers' preferences would be more apparent if hospitals encouraged mothers to choose whether or not to draw screens around themselves. In any event, the results provided no evidence that lack of privacy for breast feeding in hospital was an important issue for most of the mothers.

12.7 Expressing milk

Mothers who breast feed may need to know how to express their milk for a number of reasons, for example to relieve engorgement, to stimulate a diminishing milk supply, to maintain the milk supply while the baby is temporarily unable to take the breast, or to put in a bottle so that someone else can feed the baby in the mother's absence. Since incorrect attempts to express milk can cause the mother pain, it is probably an advantage for mothers to be taught how to express their milk correctly, although some mothers will be able to teach themselves with the aid of a description in a book. Mothers who were breast feeding on discharge from hospital were asked whether or not they had been taught how to express their milk before they left hospital; only 36 per cent said they had been shown how to do this.

12.8 Help and advice on breast feeding

Mothers were asked whether the first time they attempted to breast feed anyone had been present to help and advise them; 76 per cent said there had been a nurse or midwife to advise them. However, 91 per cent of mothers with no previous experience of breast feeding said help and advice had been available the first time they attempted to breast feed. These mothers would be in greater need of such help. Among mothers who had previously breast fed, most of those who did not have anyone to help or advise when they started breast feeding did not consider they were in need of any help.

Mothers were asked whether subsequently there was always someone available to help and advise with breast feeding while they were in hospital. 93 per cent said that someone was always available.

During the exploratory work for the survey mothers often mentioned that they had been given conflicting advice by different members of the hospital staff rather than that they were not given any advice. In the main survey they were asked a specific question about this. 38 per cent of the mothers who had breast fed at all reported that they had been given conflicting advice, generally concerning the management of breast feeding. Possibly more discussion among hospital staff concerned with the management of breast feeding could avoid this problem.

Mothers were asked how satisfied they were generally with the help and advice about feeding they had received while in hospital. Table 12.9 shows the proportions expressing various degrees of satisfaction.

Table 12.9 Satisfaction with help and advice about feeding received in hospital

	%
Very satisfied	61
Fairly satisfied	22
Rather dissatisfied	8
Very dissatisfied	3
Received no help or advice	6
	100
Base: mothers in hospital who breast fed	*761*

Mothers' satisfaction with the help and advice they received was significantly related to their success at breast feeding. The proportion of mothers who stopped breast feeding within the first week rose from 16 per cent of those who were very satisfied to 34 per cent of those who were very dissatisfied. The main reasons given for dissatisfaction were inadequate help and advice or conflicting advice.

12.9 Attitudes of hospital staff to methods of feeding

Mothers who had stayed in hospital longer than twelve hours were asked about their impressions of the attitudes of the staff in hospital to breast and bottle feeding. Tables 12.10 and 12.11 show what mothers who breast fed thought to be the attitudes of the nurses, midwives, and doctors they saw in hospital.

Table 12.10 Attitudes of hospital nurses and midwives to methods of feeding as perceived by mothers who breast fed

	%
Nurses and midwives:	
favoured bottle feeding	1
favoured breast feeding	64
had conflicting views	1
showed no preferences	34
	100
Base: mothers in hospital more than 12 hrs who breast fed	*719*

Table 12.11 Attitudes of hospital doctors to methods of feeding as perceived by mothers who breast fed

	%
Hospital doctors:	
favoured bottle feeding	0
favoured breast feeding	32
showed no preferences	44
Saw no hospital doctors	23
	100
Base: mothers in hospital more than 12 hrs who breast fed	*719*

The majority of mothers who breast fed saw the nurses and midwives as favouring breast feeding. The mothers were generally not aware of the views of the doctors they encountered; many said that the subject of feeding had not been mentioned by any doctor, thus doctors were less likely than nurses and midwives to be viewed by mothers as holding views in favour of breast feeding.

12.10 Summary and conclusions

The results of the survey did not show a strong relationship between the length of time mothers stayed in hospital and whether or not they stopped breast feeding in the first two weeks. In particular, there was no evidence that early discharge from hospital had a detrimental effect on the establishment of breast feeding.

18 per cent of mothers who had attempted to breast feed in hospital had stopped before they left hospital. The proportion of mothers stopping breast feeding in hospital expressed as a percentage of those who attempted to breast feed is probably a more useful statistic for monitoring the effect of changes in the management of breast feeding in hospitals than the proportion of mothers breast feeding on discharge, as the latter is a function both of the proportion who attempt to breast feed and the proportion who stop while still in hospital.

Fewer mothers stopped breast feeding in the first two weeks among those who breast fed according to a flexible feeding schedule than among those who adhered to a rigid schedule.

The majority of breast feeding mothers did not have their baby beside them for the whole twenty four hours on any day of the first week, although in the majority of cases the baby was only removed to a nursery at night. Many mothers did not breast feed at night for the first two or three nights, and in some cases for the whole of the first week. The practice of separating the mother and baby limits the opportunities for breast feeding on demand. However, a balance must be achieved between the mother's need for adequate rest and the desirability of frequent short feeds for the establishment of breast feeding.

The practice of giving complementary bottles of milk to breast-fed babies was very common during most of the first week, and particularly in the first three days. It was not possible to determine from the results to what extent this practice was necessary rather than being carried out routinely, nor whether the practice contributed to early failure of breast feeding.

The majority of mothers said that they had adequate access to help and advice about breast feeding, and were satisfied with the help and advice they received. Those who were not satisfied complained of both inadequate help and conflicting advice. Discussions about the management of breast feeding among the staff responsible might help to combat the latter.

Mothers thought that most of the nurses and midwives they encountered were in favour of breast feeding, but they were less likely to be aware of the views of doctors, either because they did not see any doctors or because the doctors they saw expressed no views on methods of feeding or did not mention feeding at all.

The results presented in this chapter suggest that a number of common policies and practices in hospitals could be examined with a view to decreasing the proportion of mothers who stop breast feeding while still in hospital or soon after they leave, but bearing in mind that an over enthusiastic promotion of breast feeding might in the long run be counterproductive if mothers felt they were compelled to breast feed or to continue breast feeding against their wishes.

Chapter 13 Difficulties in breast feeding

This chapter considers a number of common problems which mothers encountered in relation to breast feeding and what they did about them. But first the sources of help and advice available to mothers who had feeding problems with their babies are described. While mothers were still in hospital they clearly had access to help and advice from hospital staff. The next three sections therefore describe some sources of help and advice available to mothers whose babies were born at home and mothers who were breast feeding when they left hospital, that is to say, all the mothers who had breast fed at home.

13.1 Visits from the midwife

Newly delivered mothers should be under the care of a midwife for the first ten days after the birth. This will be the case if the mother spends ten days in hospital, but if she has a home confinement or leaves hospital before ten days she should receive daily visits to her home from a midwife. However, in many areas, if the mother were in hospital for a normal full length stay of less than ten days and were discharged without any feeding or other problems, she might not receive any visits at home from a midwife. Of the mothers who had breast fed at all at home, 72 per cent had received a visit from a midwife. In the majority of cases visits were daily until the tenth day, and some mothers had a few visits after this time, particularly if there were problems affecting either the mother or the baby. Thus for the majority of mothers who were breast feeding at home a midwife was available to help with any problems in the first few days after discharge from hospital, or after the birth in the case of mothers whose baby was born at home.

13.2 Visits from the health visitor

Mothers can also expect a visit from their local health visitor after the tenth day following the birth of the baby. The main purpose of this visit is for the health visitor to make contact with the mother, particularly if it is her first baby, and to tell her about the local service for the care of pre-school children. The mother will be encouraged to bring the baby to the child health centre so that its development can be assessed, routine immunisations carried out and so that the mother has the opportunity to talk to the health visitor or doctor about any problems with the baby. The health visitor is likely to be the main source of professional advice about infant feeding once the midwife's visits have ceased so it is important that the mother should know about this source of advice as soon as possible after the tenth day. This is particularly important to mothers of first babies.

Of the mothers who had breast fed at home, 95 per cent said they had received a visit from the health visitor by the time of the first interview at six weeks, 72 per cent had been visited within two weeks of the birth and the other 13 per cent between two and six weeks after the birth of their baby.

13.3 Help at home

A mother's family and friends can provide help ranging from looking after older children and doing housework to providing moral support, making it easier for the mother to look after the new baby and in particular to get enough rest. The latter is essential for breast feeding mothers as tiredness can affect the supply of milk. Night feeds imply an interrupted night's sleep for the mother and she may therefore need to rest during the day. This will be easier if there is someone else to help with the domestic chores and the care of the baby and particularly with the care of any older children.

Mothers were asked whether they had had extra help around the house or with the baby from a number of sources. Table 13.1 shows the proportions of mothers who had breast fed at home who had received help from each source.

Table 13.1 Extra help at home received by mothers who breast fed at home

Mother received extra help from:	%
Husband	83
Relatives	58
Friends	15
Other (home help, nanny etc)	3
Mother received no extra help	4
Base: mothers who had breast fed at home	*650*

Percentages do not add to 100 as some mothers received help from more than one source.

The main source of help was from husbands, and mothers whose husbands had given extra help were asked whether he had taken time off work. 80 per cent said their husbands had taken some time off, although sometimes this was only for one or two days.

13.4 Problems with breast feeding in the first week

90 per cent of mothers who breast fed at all had encountered some problems with breast feeding during the first week. Direct questions were asked about some common problems, and then mothers were asked whether they had had any other problems in the first week. The problems mentioned specificially were: difficulty in getting the baby to take the breast for the first time, engorgement, sore nipples and difficulty for the mother in finding a comfortable position for breast feeding because of painful stitches in the perineum. The incidence of each of these problems is discussed in turn, together with any relationships between the problem and whether or not mothers stopped breast feeding within the first two weeks.

i) Difficulty in getting the baby to take the breast for the first time

This problem has already been described in Chapter 11 and its possible causes discussed. Table 13.2 summarises the proportion of mothers who encountered

Table 13.2 Proportion of mothers who stopped breast feeding within 2 weeks in relation to difficulty in getting the baby to take the breast

	%	% who stopped breast feeding within 1 week	% who stopped breast feeding within 2 weeks	*Base*
Difficulty in getting the baby to take the breast for the first time	31	29 %	41 %	*241*
No difficulty	69	14 %	27 %	*547*
	100			
Base: mothers who breast fed initially	*789*			

this problem and the proportion who stopped breast feeding within either the first week or the first two weeks in relation to the occurrence of this problem. The results show that a higher proportion of mothers who experienced difficulty in getting the baby to take the breast for the first time stopped breast feeding within the first two weeks than of mothers who had no such difficulty.

ii) Engorgement

Generally a mother starts producing milk between three and five days after the birth. Milk production can start quite suddenly, over the course of a few hours, and soon more milk may be produced than the baby can take. If the excess milk is allowed to collect the breasts can become painfully engorged. In cases of severe engorgement the breasts become hard and extremely painfully distended with accumulated fluid so that the nipples barely protrude, making it difficult for the baby to take the breast. Most mothers can expect to experience some degree of fullness when milk production starts, with varying amounts of discomfort, and thus it is difficult to establish the exact proportion of mothers who suffered from engorgement. The figures presented in Table 13.3 relate to mothers who said that their breasts became painfully engorged, and show the proportion of mothers who stopped breast feeding within two weeks in relation to this problem.

The results show that engorgement appears to be associated with success rather than with failure at breast feeding in the first two weeks. Possibly its occurrence indicates the potential to produce enough milk. However, when mothers were asked what they had done to relieve the engorgement it was found that about half the mothers had expressed milk, either manually or by means of a breast pump, or had fed the baby more often. These mothers were less likely to stop breast feeding in the first two weeks than mothers who had taken other action, such as applying hot or cold flannels, taking hot baths, wearing a tight bra or binder or doing nothing (apart from taking pain killers). It may therefore be that the action taken by many mothers to relieve the engorgement, rather than the occurrence of engorgement, is associated with success at breast feeding in the first two weeks.

iii) Sore nipples

It has already been shown that sore nipples was a common reason given for stopping breast feeding in the first two weeks. Sore nipples generally develop in the first week, but can occur later for the first time. Of the mothers who had breast fed at all 46 per cent said they had suffered from sore nipples; 41 per cent said that this condition started in the first week and five per cent said it started later than that time. Hospital staff usually attempt to avoid this problem

Table 13.3 Proportion of mothers who stopped breast feeding within 2 weeks in relation to painfully engorged breasts

	%	% who stopped breast feeding within 1 week	% who stopped breast feeding within 2 weeks	*Base*
Engorgement	60	15 %	28 %	*472*
No engorgement	40	23 %	35 %	*316*
	100			
Base: mothers who breast fed initially	*789*			

by advising mothers to accustom their nipples gradually to the baby's sucking, allowing the baby to suck for only one minute at each breast for each feed on the first day and then gradually increasing the time each day until the baby is feeding for ten minutes each side. Sore nipples occur nevertheless. One theory[1] holds that it is incorrect positioning of the baby during feeding that causes sore nipples rather than sucking by itself. Table 13.4 shows the proportion of mothers who said they suffered from sore nipples during the first week and the proportions who stopped breast feeding either within the first week or within the first two weeks in relation to this problem. The results do not indicate a clear relationship between sore nipples and stopping breast feeding in the first two weeks. Although some mothers stopped breast feeding because of this condition, others persevered. Whether mothers stopped or not did not seem to be related to the action they took to treat sore nipples; most mothers applied cream to their nipples, but a few stopped breast feeding temporarily and expressed their milk while their nipples recovered. However, we had no means of assessing how painful mothers' nipples became, and individual mothers no doubt differed in their tolerance of discomfort and also in their determination to succeed at breast feeding in spite of problems.

A previous study[2] found a higher incidence of sore nipples among mothers who fed according to a rigid feeding schedule compared with those who fed on a self-demand schedule. The results of this survey confirmed this relationship: 36 per cent of mothers who adhered to a flexible feeding schedule developed sore nipples compared with 43 per cent of those who fed according to a rigid schedule.

Mothers were asked whether they had done anything while they were pregnant to prepare their breasts for breast feeding. Over half, 55 per cent, of the mothers who breast fed at all had prepared their breasts for breast feeding, usually by rubbing cream on and massaging the nipples. There was no difference in the proportions of mothers who stopped breast feeding in the first two weeks between those who had prepared their breasts for breast feeding and those who had not; neither was there any difference in the proportion who subsequently suffered from sore nipples. However, 45 per cent of the mothers who had previously breast fed for longer than six weeks had prepared their breasts compared with 61 per cent of the mothers who were breast feeding for the first time or who had previously not breast fed beyond six weeks. It has already been shown that mothers who had breast fed a previous child for longer than six

Table 13.4 Proportion of mothers who stopped breast feeding within 2 weeks in relation to the occurrence of sore nipples

	%	% who stopped breast feeding within 1 week	% who stopped breast feeding within 2 weeks	*Base*
Sore nipples	41	16 %	30 %	*323*
No sore nipples	59	21 %	32 %	*465*
	100			
Base: mothers who breast fed initially	*789*			

---

[1] Gunter, M *Infant feeding* op cit

[2] Illingworth, RS and Stone, DGH op cit

weeks were more likely to feed the sampled baby successfully. The results for mothers who were breast feeding for the first time were therefore examined, and showed that 32 per cent of those who had prepared their breasts stopped breast feeding in the first two weeks compared with 42 per cent of those who had not. The results do not demonstrate clearly whether or not preparation of the breasts affects the duration of breast feeding; it may be that mothers who are most determined to breast feed are both more likely to prepare their breasts and to breast feed successfully, without there being a causal relationship between the two. There appears to be no relationship between preparation of the breasts and the incidence of sore nipples.

iv) Problems caused by stitches

At the delivery the mother may need a small incision in the perineum to allow the baby's head to emerge easily. If this is not done the perineum can sometimes be torn. An incision or a tear is stitched after the birth and the stitches may cause the mother some degree of discomfort over the next few days. If the stitches are very painful mothers can find it difficult to sit in an upright position and to hold the baby in the correct position for breast feeding. It is possible to breast feed lying down, but few mothers mentioned that this had been suggested to them. 73 per cent of mothers who breast fed had stitches and 21 per cent did not; the remaining six per cent had Caesarean deliveries and therefore had stitches in the abdomen rather than the perineum. Of the mothers who had stitches in the perineum, 29 per cent said their stitches made it difficult for them to feed the baby. These mothers were significantly more likely than other mothers to stop breast feeding in the first two weeks, although the differences were not significant in respect of the proportion stopping in the first week (Table 13.5).

v) Insufficient milk

Mothers reported a number of other problems in relation to breast feeding in the first week, but by far the most commonly reported difficulty was insufficient milk. 13 per cent of mothers who breast fed at all mentioned this as a problem in the first week and, as might be expected, this was strongly associated with stopping breast feeding in the first two weeks: 42 per cent of mothers with this problem had stopped breast feeding by the end of the first week and 64 per cent had stopped within the first two weeks. Mothers were asked what they had done about this problem and it was found that a third had stopped breast feeding without apparently taking any other action. It must be remembered that many of the mothers in hospital at this time

Table 13.5 Proportion of mothers who stopped breast feeding within 2 weeks by whether stitches caused problems with breast feeding

	%	% who stopped breast feeding within 1 week	% who stopped breast feeding within 2 weeks	*Base*
Stitches caused problems with breast feeding	21	22%	36%	*165*
Stitches did not cause problems	52	16%	28%	*407*
No stitches	21	16%	29%	*168*
Caesarean delivery	6			
	100			
Base: mothers who breast fed initially	*789*			

would already be giving bottles in addition to breast feeding. 30 per cent of mothers with insufficient milk said they 'topped up' with bottles, whereas only 11 per cent said they fed the baby more frequently, 16 per cent said they did nothing at all. We noted that some mothers complained of insufficient milk and even stopped breast feeding for this reason in the first three days. Presumably these mothers were unaware that they should not expect to produce any milk so soon.

It has been shown[1] that milk production increases with greater frequency of breast feeding. It might therefore be more constructive to advise mothers to try feeding the baby more often before resorting to giving complementary bottles.

13.5 Problems with breast feeding after the first week

Many of the problems mentioned by mothers as occurring after the first week and before the time of the first interview at six weeks could equally well have occurred if mothers had been bottle feeding and were in fact reported by mothers who bottle fed. Examples of such problems were the baby having wind or colic, a cold making it difficult for the baby to suck and the baby bringing back milk after a feed. In addition, although in most cases sore nipples developed during the first week, a few mothers developed this condition later, usually during the second week.

By far the most common problem between one and six weeks was the baby appearing to be hungry, either immediately after a feed or earlier than the mother thought it should be for the next feed. This problem was as likely to be mentioned by mothers who were bottle feeding as by mothers who were breast feeding, although in the case of the latter, their interpretation was that they did not have enough milk. It is with this group we are concerned in this chapter, since insufficient milk was both the most frequently mentioned problem of breast feeding between one and six weeks and the most common reason given for stopping breast feeding during this period.

Of the mothers who breast fed for longer than one week, 42 per cent had stopped breast feeding by the time of the first interview at six weeks. Insufficient milk was given by 26 per cent as their main reason for stopping, 16 per cent giving other reasons. However when the mothers who had breast fed for longer than a week were asked about problems with breast feeding occurring between one and six weeks, only 19 per cent said that insufficient milk had been a problem and of these mothers only 56 per cent had stopped breast feeding by the time of the interview. Thus although only 19 per cent of mothers who breast fed longer than a week mentioned insufficient milk as a problem, at least 34 per cent must have found that they did not have enough milk, even though they did not cite this as a problem. This may have been because the question about reasons for stopping breast feeding came earlier in the interview than the question about problems, and so some mothers may have felt that they had already mentioned this problem. As a consequence, not all mothers were asked what they had done about the problem of insufficient milk so the following analysis is confined to the answers of the 19 per cent who were asked about what they had done.

Mothers were asked what they had done about the problem of insufficient milk and the answers of those who had stopped breast feeding by the time of the interview were compared with the answers of those who had not. Some 92 per cent of the former said they had given bottles compared with 60 per cent of the latter. However, we knew that in some cases mothers started giving bottles because they had decided they would not be able to breast feed, whereas others gave bottles to stop the baby being hungry while still waiting to breast feed, and there was not always a clear distinction between the two groups. In many cases when the mother seemed not to have quite enough milk she 'topped up' with a bottle at the end of the feed. She gradually found she was having to give more milk from a bottle as she still did not have enough milk and so, rather than continue to use both methods she decided to change to bottle feeding completely. The same proportion (six per cent) of both groups of mothers, those who had stopped by six weeks and those who had not, tried feeding the baby more often in order to increase their supply of milk; a further one per cent of each group tried expressing their milk. However, the mothers who were still breast feeding at six weeks were more likely than those who had stopped to have done nothing at all about the problem. But some of these were feeding the baby on demand and thus doing nothing might indicate continuing to do this. Thus although the mothers who stopped breast feeding by six weeks were more likely to give bottles than those who did not stop, a significant proportion of the latter also gave bottles and yet managed to continue breast feeding.

---

[1] Egli, GE Egli, NS Newton, M *Pediatrics* 1961 27 p314

These mothers were asked whether they had sought advice about the problem of insufficient milk. Of the 87 per cent who said they had asked someone for advice; (of these) 56 per cent had asked a health visitor, 28 per cent had asked a midwife, 18 per cent had asked a doctor and 13 per cent had asked a friend or relation. There were no differences in the proportions of mothers who stopped breast feeding by six weeks and who did not stop in respect of whether they sought advice or not, nor in their sources of advice. Neither did the two groups of mothers differ in respect of whether they followed the advice; 90 per cent said the action they took was in accordance with the advice given. Thus mothers who gave bottles and subsequently stopped breast feeding were more likely to say they had been advised to stop breast feeding than those who did not stop. Few mothers were advised to try feeding the baby more often (only six per cent). Although we cannot be sure how many mothers were actually advised to stop breast feeding as opposed to giving bottles without aiming to stop breast feeding, it is clear that the most common advice to mothers with the problem of insufficient milk was to give the baby bottles. Two thirds of the mothers who gave bottles had stopped breast feeding by the time of the first interview at six weeks. Although it might be argued that some mothers will under any circumstances be unable to produce enough milk for their babies, it seems possible that many mothers could be helped to produce enough milk if they did not resort to giving bottles so readily before trying other measures to increase their milk supply.

13.6 Conclusions

Most breast feeding mothers were in at least daily contact with a midwife for the first ten days after the birth and would therefore be able to call on her help and advice about problems with regard to breast feeding. After that time responsibility for advisory and supportive care of the mother and baby is transferred to the health visitor. This transition occurs at a time when mothers of first babies in particular are likely to experience problems with breast feeding as they adapt to caring for their baby at home rather than in hospital and therefore it is important that these mothers are contacted by the health visitor as soon as possible to ensure continuity of care. All members of the health professions who advise mothers of young babies should be fully conversant with the latest recommendations about the management of breast feeding, including the treatment of common problems, so that as far as possible the different people who come into contact with mothers give consistent advice. Some mothers mentioned that the help health visitors could give was limited by their availability; problems arising on a Friday night would generally have to wait until the first clinic the next week, by which time the mother might have stopped breast feeding. One partial solution to this problem might be to teach mothers about the common problems of breast feeding and how to deal with them before the problems arise. This would also help to increase the general level of knowledge about breast feeding problems among mothers, so that in the future new mothers could obtain relevent practical advice and support from friends with experience of successful breast feeding and knowledge about coping with commen problems.

Chapter 14 Patterns of infant feeding and the introduction of solid food

Information about how babies were fed at six weeks and at four months was examined to find the extent to which feeding practices conformed with those recommended in 'Present-Day Practice in Infant Feeding'[1]. Mothers were asked whether breast fed babies were also given bottles of artificial milk, when the babies were first given solid food, what they were given and why solid food was first introduced. Information was also collected about the babies' diet over a twenty four hour period and about the administration of vitamin supplements and fruit drinks.

14.1 Complementary and supplementary bottles of milk

Mothers who breast feed may in addition give their babies 'artificial' feeds of modified cow's milk. We use the term 'complementary' feeding when a bottle feed is given at the same feed as the breast, and the term 'supplementary' feeding when the baby is bottle fed instead of breast fed.

Table 14.1 shows, for those mothers who were still breast feeding at six weeks and four months respectively, the proportions who were also giving bottles, and whether these were given as a complement or substitute for breast feeding.

At the age of six weeks 75 per cent of the babies who were breast fed at all were either not receiving bottles of artificial milk or were doing so less than once a day, usually when someone else fed them; 25 per cent were receiving either complementary or supplementary feeds at least once a day. Bottles given as complements to breast milk were generally given because the mother thought she did not have enough milk; however, this reason was also given by over half the mothers who gave supplementary bottles at least once a day. Other mothers who used supplementary bottles did so because they were gradually changing to bottle feeding completely, or because they wanted the baby to be able to take milk from a bottle easily. (A baby who is not used

Table 14.1 Bottles given to breast fed babies at 6 weeks and 4 months

	Six weeks		Four months	
	%		%	
No bottles given	58	75	73	85
Bottles given less than once a day	17		12	
Complementary bottles (same feed)	15		9	
Supplementary bottles (different feeds) given at least once a day	10		6	
	100		100	
Base: babies breast fed at six weeks and four months	*373*		*206†*	

† *see note on reweighting, 1.8 p5.*

---

[1] Present-Day Practice in Infant Feeding. *Report on Health and Social Subjects 9. (DHSS 1974)*

to taking milk from a bottle may reject a bottle, making it difficult for the mother to leave the baby with anyone else for more than a short time).

At four months only 15 per cent of the mothers who were breast feeding at the time were giving bottles at least once a day in addition to breast feeding. Mothers who gave bottles at this stage were less likely than those who did so at six weeks to say that they gave bottles because they did not have enough milk. However, many of those who were giving complementary bottles for this reasons had stopped breast feeding before four months. Supplementary bottles were generally given when some-one else fed the baby or because the mother was gradually stopping breast feeding.

14.2 Completely breast feeding

Considering the results for the total sample, although at the age of six weeks 24 per cent of the babies were still receiving some breast milk, only 18 per cent were having no artificial milk at all (apart from occasional bottles given less than once a day). At four months 13 per cent of the babies were still having some breast milk, 11 per cent being breast fed without additional bottles more than once a day. If we define as completely breast fed babies whose only food was breast milk, babies who were receiving solid food in addition to milk must be excluded. As the next section shows, many mothers had started giving their babies solid food by the age of six weeks, and the majority had done so by four months. Thus at six weeks only 4 per cent of all babies in the sample were fed entirely on breast milk; the proportion of babies who were completely breast fed at four months was less than one per cent.

14.3 Age at starting solid food

Recommendations made by the Department of Health and Social Security in their report 'Present-Day Practice in Infant Feeding' were that 'the early introduction of cereal or other solid food to the diet of babies before about four months of age should be strongly discouraged; and that cereal foods in any form should not be added to the milk in the bottle feed'. This section examines the extent to which mothers who cooperated in the survey conformed to the first of these recommendations.

It was apparent from the pilot survey that many mothers did not consider baby cereal or rusks mixed with milk to be solid food, particularly if they added them to the baby's bottle of milk. Mothers were therefore asked whether they had given the baby cereal, rusks or any other kind of solid food, but in describing the results all such foods will be referred to as 'solids', however they were given.

Mothers were asked when they had first given their baby solid food, what they had given and why they had started at the particular time they did. Information obtained from the main and follow-up interviews is combined in Table 14.2 to show the proportion of babies whose mothers had tried giving them solid food at different ages. A small proportion of mothers subsequently stopped giving solids and started again later, but they have not been shown separately.

Table 14.2 Proportion of babies who had been given solid food by ages up to 4 months

	%
1 week	1
2 weeks	3
4 weeks	18
6 weeks	40
8 weeks	49
3 months	85
4 months	97
Base: total sample	*1544*†

† *see note on reweighting, 1.8 p5.*

Clearly the behaviour of the majority of mothers is not in line with the recommendation that babies should not be given solid food before the age of four months; most mothers had started well before that time. The most popular age for starting solids was between two and three months. This probably reflects the fact that the recommendations were made not very long before the survey was carried out and that until that time most clinics were recommending mothers to start solids at about three months of age. Likewise packets of commercial baby food recommended ages younger than four months at least until shortly before the survey was carried out and some were still doing so at the time of the survey.

Table 14.2 showed that 40 per cent of babies had been given some solid food by the age of six weeks. We were interested in factors associated with giving solids at such a young age or earlier. Since mothers of first babies would be more likely to be influenced by current views on infant feeding and as recommendations about when solid food should be started have changed over the years the results for first and later babies were compared. 36 per cent of first babies had been given solid food by six weeks compared with 43 per cent of later babies. However, this difference might also be due to an association between starting solids early and bottle feeding, since solids can be put in the baby's bottle of milk, and a higher proportion of second and subsequent babies than first babies were completely bottle fed at six weeks. Table 14.3 shows the proportion of babies who had been given solid food by the age of six weeks by method of feeding for first and later births, and shows that some of the difference between first and later babies disappears once method of feeding is taken into account.

These results show a marked difference between the proportions of breast fed and bottle fed babies who had been given solids by six weeks.

The proportion of mothers who had given their babies solids by six weeks was calculated for the different social classes and ages of finishing full time education. Mothers in the higher social classes who completed their education later were less likely to have given solids before six weeks. However, most of the differences disappeared when the results were examined separately for mothers who were breast feeding and bottle feeding at six weeks. The only significant difference remaining was that mothers who had been educated beyond the age of eighteen were less likely than other mothers to have given solids before six weeks regardless of the method of feeding they used at six weeks.

By the age of four months all except three per cent of babies had been given solid food, but again there was an association with whether the baby was breast fed or bottle fed at this age. Ten per cent of the babies who were still breast fed at four months had not yet been given solid food compared with two per cent of those who were bottle fed, irrespective of whether they had previously been breast fed. Differences between first and later births were negligible once the method of feeding had been taken into account. Since so few mothers waited longer than four months before starting solid food no further analysis could be made.

Table 14.3 Proportion of babies who had been given solid food by 6 weeks by method of feeding at 6 weeks, for first and later births

	First births	*Base*	Later births	*Base*	Total	*Base*
Breast fed at six weeks	14%	*196*	20%	*177*	17%	*373*
Bottle fed at six weeks	44%	*515*	49%	*656*	47%	*1171*
Total	36%	*711*	43%	*833*	39%	*1544*

14.4 The first occasion on which solid food was given

In order to throw some light on why so many babies had been given solid food at such young ages information was collected about the first occasion mothers gave their baby solid food, and the answers of mothers who had started solids by the time of the first interview (about six weeks) were compared with those who started between the first and second interviews (about four months). We were therefore comparing answers from mothers who started solids very much earlier than is currently recommended with those from mothers who started to give solids somewhat earlier than recommended.

The most frequently mentioned foods which mothers gave to their babies on the first occasion were baby cereals and baby rusks. Baby cereal is a commercially prepared product, usually wheat or rice, which is mixed with milk before feeding to the baby. Rusks are biscuits made from wheat flour which are mixed with milk to form a suitable paste for feeding to a young baby, although older babies can hold them in their fingers. The very hard teething rusks are not included in this category; they were not mentioned as a first food and are usually only given to older babies. Other foods have been classified as savoury or sweet. Other savoury foods were mainly tins, jars or packets of baby 'dinners', although a home made vegetable puree was also included. Other sweet foods were mainly tins, jars or packets of desserts for babies, but yoghurt, custard and stewed fruit were also included. Table 14.4 compares the first foods given by mothers who started solids before six weeks with those who started between six weeks and four months.

Most mothers gave their babies baby cereals or rusks as the first solid food. Mothers who started to give solids when their babies were between six weeks and four months of age were more likely to give other foods, particularly savoury foods, than mothers who started to give solids by six weeks. The preference for baby cereals and rusks may be due in part to the ease with which small quantities can be prepared, whereas a small baby would not eat enough of a tin or jar of food in the time it would be hygienically safe to keep them. As we shall show later in the chapter, few mothers prepared their own food for their babies.

In view of the recommendation that mothers should not add cereals to bottle feeds mothers were asked by what method they had first given the baby solid food. Of mothers who had started solid food by six weeks 44 per cent had put it in the milk feed and 56 per cent had given it on a spoon. Of mothers starting solids between six weeks and four months only 12 per cent had put solids in the bottle; 88 per cent had used a spoon. However,

Table 14.4 First type of solid food given to babies by age of starting solids

	Started solids by six weeks	Started solids between six weeks and four months
	%	%
Baby cereal	52	44
Baby rusks	43	36
Other savoury food	3	14
Other sweet food	2	6
	100	100
Base: babies given solids by six weeks and between six weeks and four months	*656*	*833*†

† *see note on reweighting, 1.8 p5.*

these results may merely reflect the fact that bottle fed babies were given solids at younger ages than breast fed babies and were therefore more likely to have been given solids in a bottle of milk. Comparable results were examined for babies who were completely bottle fed and it was found that 47 per cent of those who had been given solid food by six weeks had been given it in a bottle of milk compared with 14 per cent of those who had first been given solid food between six weeks and four months. These facts confirmed that there is an association between the early introduction of solid food and the practice of adding it to the baby's bottle of milk.

Table 14.5 shows the reasons for starting solid foods given by mothers who started giving solids by six weeks and by those who started between six weeks and four months. The answers given by the mothers reflect certain expectations of the baby's behaviour at different ages and beliefs about certain feeding practices. Many of the mothers who had given their babies solid food by six weeks appeared to believe that, at least by six weeks if not before, babies should be fed no more than four hourly and should sleep through the night, that is, they should not need a feed in the early hours of the morning.

We give below a few of their answers as illustrations of the categories shown in Table 14.5, together with the age at which the particular mother first gave solid food.

The baby seemed hungry:

> 'He seemed hungry after his bottle - he was sucking his fist and crying.'
> (four weeks)

> 'Because he started waking up every three hours and crying, although he was having the proper quantity (of milk) for his age to last him four hours, so I thought he wasn't satisfied.'
> (five weeks)

To get the baby to sleep through the night:

> 'To help him sleep through the night - he's only woken up through hunger before.'
> (five weeks)

> 'She wasn't sleeping through the night - I thought if she was more satisfied she would sleep more.'
> (five weeks)

Table 14.5 Reasons given by mothers for introducing solid food, by age of starting solids

	Started solids by six weeks	Started solids between six weeks and four months
	%	%
The baby seemed hungry/was waking early for feeds	61	68
To get the baby to sleep through the night	31	14
Thought it was the right age to start/ started other children at that age	11	26
Other reasons	10	9
Base: babies given solids by six weeks and between six weeks and four months	*656*	*833†*

† see note on reweighting, 1.8 p5.

Percentages do not add to 100 as some mothers gave more than one reason

Thought it was the right age to start:

> 'I've always started feeding them early - I think they come on quicker'. (In what way?) 'They seem more contented.'
>
> (eight days)

> 'I think the earlier you start the better - the longer you leave it the less they take to the spoon.'
>
> (three weeks)

Other answers included the views that too much milk would make the baby fat and that solids would stop the baby bringing back milk after a feed.

From the answers given we gained the impression that a mother who started solid food early was likely to see solid food as the answer to the problem of a baby crying with hunger more often than she thought it should or at times when she thought it should sleep, whereas a mother who started solid food at around three months was more likely to think it was an appropriate age to start.

14.5 Advice about starting solid food

Mothers were asked whether anyone had advised them to start giving solid food at the time they first started and, if so, who had given them the advice. Of the mothers who had started giving solids by the age of six weeks, 21 per cent said they had been advised to do so by a health professional; the corresponding proportion for mothers who had first* given solids between six weeks and four months was 42 per cent. Mothers have most contact with a midwife soon after the birth and with the health visitor later on. This is reflected in the source of professional advice about starting solids: mothers who started early on advice were likely to say the advice had been given by a midwife, whereas those who started later on advice more commonly said they had been given advice by a health visitor. However, there were fewer mothers in the former group so the results do not indicate that many mothers started giving solids early on the advice of midwives.

Table 14.6 shows the proportion of mothers who had started giving solid food at different ages and who said they had been advised to do so by a member of the health profession.

In interpreting these results it must be remembered that once a mother has started giving solid food she cannot then be advised to start at a later date. A few mothers mentioned spontaneously that they had been advised not to start solids so early but had done so nevertheless. Although the later a mother had started solids the more likely she was to say she had been advised to do so by a health professional, we cannot tell from this at what ages most midwives or health visitors would recommend mothers to start solid food. If a mother started solids early on her own initiative or the advice of family or friends, we do not know whether a member of the health

Table 14.6 Proportion of mothers advised to start solids by health professionals, by age at starting solids

Age at starting solids:	Started solids %	% advised to start by health professionals	*Base*
Up to 2 weeks	3	29%	*53*
2 weeks - 4 weeks	15	19%	*228*
4 weeks - 6 weeks	21	20%	*330*
6 weeks - 8 weeks	9	35%	*140*†
8 weeks - 3 months	36	39%	*557*†
3 months - 4 months	12	52%	*180*†
Not started by 4 months	4		
	100		
Base: total sample	*1544*†		

† *see note on reweighting, 1.8 p5.*

professions had advised her not to start or whether she had had no advice from this source.

Mothers of more than one child were less likely than mothers of first babies to say they had been advised by a health professional to start solids at the time they did so. Presumably this was because they decided on the basis of previous experience when to start. These mothers also had less contact with the health professions.

In view of the relationship between the age at which solid food was started and the method of feeding, and the reasons given by the mothers for starting solid food, a possible explanation of the results seemed to be that if a breast feeding mother thinks her baby is still hungry after a feed or waking too early for the next, she doubts whether she has enough milk and may give the baby extra milk in a bottle. A bottle feeding mother knows exactly how much milk her baby has had and so if he appears to be hungry after a feed or wakes early she can either give more milk or give cereal to overcome the problem. It would seem that many mothers believe that giving extra milk is more harmful than giving cereal. Thus if those who are responsible for advising mothers about infant feeding practices wish to discourage the early introduction of solid food, they must be able to offer acceptable advice to mothers of babies who appear not to be satisfied with the amount of milk calculated according to their age and weight. It would be interesting to find out what beliefs mothers have about babies' behaviour in respect of amount of sleep, frequency of feeds, and so on, at different ages, and whether beliefs held before the baby's birth are confirmed by the baby's actual behaviour, and how the mother responds to the behaviour.

14.6 Typical feeding patterns over 24 hours at six weeks and four months

At both the main and the follow-up interviews mothers were asked to describe exactly what their baby had had to eat on the day before the interview, although details of quantities were not collected.

Table 14.7 shows how many times a day babies aged six weeks were given milk during the 24 hour period we were considering, both for the whole sample, and separately for babies who were breast fed and bottle fed at the time of the interview. Although the majority of babies were receiving five milk feeds a day at this age, breast fed babies were more likely than bottle fed babies to receive more than five milk feeds, whereas bottle fed babies were more likely to receive fewer.

Table 14.8 shows how often the babies had been given solid food during the 24 hour period. Since an association has been shown between bottle feeding and starting solids before six weeks, the results are given by method of feeding at six weeks.

Table 14.7 Number of milk feeds during 24 hours by method of feeding at 6 weeks

	Total	Still breast fed	Bottle fed
	%	%	%
3 or less	1	0	1
4	19	12	21
5	53	53	53
6	21	28	19
7 or more	6	8	6
	100	100	100
Base: total sample	*1544*	*373*	*1171*

Table 14.8 Number of occasions on which solid food was given during 24 hours by method of feeding at 6 weeks

	Total	Still breast fed	Bottle fed
	%	%	%
Once	16	9	18
Twice	10	3	12
Three times	4	1	5
Four or more times	4	0	5
Total who gave solids	33	13	40
No solids given	67	87	60
	100	100	100
Base: total sample	*1544*	*373*	*1171*

Not only were bottle fed babies more likely than breast fed babies to have been given solid food, but calculation of the number of times solid food was given for those who gave solids at all showed that bottle fed babies were more likely than breast fed babies to have been given solid food more than once during the day.

We also noted that 47 per cent of bottle fed babies who had been given solid food during the 24 hour period had been given cereal or rusk in a bottle, compared with 13 per cent of the breast fed babies, that is, those who were receiving milk in a bottle as well as being breast fed.

Most of the babies who received solid food over the 24 hour period had been given a commercial baby cereal or rusk. Only one per cent had been given any home made food, 56 per cent had been given baby cereal, 48 per cent rusks, 11 per cent another kind of savoury food and 12 per cent another kind of sweet food. Some babies had been given more than one kind of food so these percentages add to more than 100.

91 per cent of the babies had been given additional fluids over the 24 hour period, either water or fruit juice. Babies who are receiving solid food should be given fluids in addition to milk, but 6 per cent of the babies who had been given solid food had not been given any additional fluid over the 24 hours. Most babies were given additional fluids in a bottle, but eight per cent had been given dinky feeders, tiny bottles holding about one ounce of fluid. In half the cases dinky feeders were used for water and in half for fruit juice. It is considered to be a bad practice to leave a baby with a dinky feeder containing fruit juice as a dummy, as this would be bad for the teeth once they emerge. However, we do not know whether these babies were left with dinky feeders or whether they were merely used as convenient receptacles for the small amounts of fluids drunk by babies of this age.

By the time of the follow-up interviews, when the babies were about four months old, the picture had changed. As one would expect, babies generally had fewer milk feeds during 24 hours. (Table 14.9).

Table 14.9 Number of milk feeds during 24 hours at 4 months

	%
3 or less	22
4	53
5	21
6 or more	4
	100
Base: total sample	*1544†*

† see note on reweighting, 1.8 p5.

By four months the majority of babies were receiving milk four times a day and an appreciable proportion had fewer milk feeds than that. At this age there was no difference between the breast fed and bottle fed babies in how often they were given milk.

Table 14.10 Number of occasions on which solid food was given during 24 hours by method of feeding at 4 months

	Total	Still breast fed	Bottle fed
	%	%	%
Once	12	23	10
Twice	22	24	22
Three times	46	25	49
Four or more times	13	7	13
Total who gave solids	92	80	94
No solids given	8	20	6
	100	100	100
Base: total sample	*1544†*	*206†*	*1138†*

† *see note on reweighting, 1.8 p5*

However, differences between breast fed and bottle fed babies were still apparent in respect of how often they were given solid food (Table 14.10). A higher proportion of bottle than breast fed babies received solid food during the 24 hour period and the former had also received solid food on more occasions.

The type and variety of the solid food given had also changed by the age of four months. During the 24 hour period 50 per cent of the babies had been given a cereal. 44 per cent rusks, 73 per cent another kind of savoury food and 51 per cent another kind of sweet food. A much higher proportion of babies were receiving more than one kind of food than at six weeks. Although 97 per cent of the babies who had been given solid food had been given some commercially prepared food. 17 per cent had had some home made food.

Babies of this age were less likely to be given cereal or rusk in a bottle; 14 per cent of the bottle fed babies and 2 per cent of the breast fed babies had been given food by this method during the 24 hour period.

At four months 92 per cent of the babies had been given additional fluids during the day. Eight per cent of babies who had received solid food had not been given extra fluids during the day.

Seven per cent of babies had been given fluids in a dinky feeder, six per cent being given fruit juice and one per cent water in the dinky feeder.

14.7 Supplementary vitamins

The mothers were asked whether they generally gave their babies drinks of fruit juice or vitamin drops and, if so, what brands they used. We could then determine whether the babies were receiving supplementary vitamin C or D either in the form of fruit juice or vitamin drops. Commercial baby milks are all fortified with vitamins C and D, but 24 per cent of babies who were bottle fed at six weeks were also receiving vitamin drops containing vitamins C and D.

We were concerned as to whether breast fed babies and the few babies who were receiving evaporated milk or unmodified cow's milk were receiving vitamin supplements. Among breast fed babies and babies not receiving milk already fortified with vitamins, 42 per cent were receiving supplements of both vitamins C and D, while a further 20 per cent were being given extra vitamin C in the form of a fruit juice with a high vitamin C content. Thus although the majority (62 per cent) of these babies were receiving enough vitamin C, over half were not being given any extra vitamin D. Some of the breast feeding mothers expressed surprise at the questions, saying they thought that breast milk contained all that was necessary for the baby's growth, but other mothers said they had been told to start giving supplementary vitamins at six weeks, so many mothers might have started giving vitamin supplements soon after the interviews.

At four months a much higher proportion of breast fed babies were receiving vitamin supplements: 74 per cent were receiving both vitamins C and D, 16 per cent were receiving a vitamin C-containing fruit juice and the remaining ten per cent received no vitamin supplements. Information was not collected about brands of milk at the follow-up interviews and so those who were having evaporated milk or unmodified cow's milk cannot be distinguished.

However, it was noted that 36 per cent of bottle fed babies were receiving vitamin drops.

14.8 Conclusions

The results presented in this chapter show that the majority of mothers, particularly mothers who bottle fed, introduced solid food to their babies' diets long before the recommended age of four months. Although members of the health professions, and in particular health visitors, may be able to influence some mothers to delay starting solid foods, consideration must be given to the most appropriate advice to bottle feeding mothers who say that their baby appears still to be hungry after receiving the correct amount of milk calculated according to its age and weight. Attention also needs to be paid to mothers' ideas about what constitutes 'normal' behaviour of babies of different ages. This topic might be discussed during pregnancy at mothercraft classes, but it must be remembered that the mothers most likely to start solid food early will probably be amongst those least likely to attend any antenatal classes.

Chapter 15 Conclusions

15.1 Incidence and prevalence of breast feeding

The main aim of this survey was to establish the incidence and prevalence of breast feeding over the first year of life for a nationally representative sample of babies born in 1975, to provide a base with which future information about infant feeding practices could be compared. Incidence of breast feeding was defined as the proportion of babies who were put to the breast at all, and on this basis the survey found that 51 per cent of the babies in the sample had been breast fed initially. (In practice the exact definition adopted did not affect estimates of the incidence of breast feeding significantly; only one per cent of mothers gave up breast feeding after one day or less.) By the age of six weeks only 24 per cent of babies were still breast fed at all, and the proportion had fallen to 13 per cent by four months. Despite the current recommendation that mothers should breast feed for the first four to six months and delay starting solid foods until at least four months, an insignificant proportion of mothers were completely breast feeding at four months without the addition of either artificial milk or solid food.

The better educated mothers and those in the higher social class categories were both more likely to breast feed initially and to breast feed for longer than other mothers. There was a higher incidence of breast feeding in London and the South East than in the North of England, with the rates for the South West and Wales, and Midlands and East Anglia falling between the two extremes. Among mothers of first babies, those who were aged under twenty at the time of the interview were less likely to breast feed than older mothers. Both these relationships persisted when mothers' education and social class were taken into account. Only ten per cent of the mothers had returned to work four months after the birth, in most cases to part time work, and there was no evidence that these mothers were less likely than others to attempt to breast feed.

15.2 Reasons for choosing breast or bottle feeding

The survey showed that the decision made by mothers of more than one child about how they would feed their latest baby was largely determined by their experience of feeding the previous child or children. Those who chose to bottle feed their first child generally chose the same method for subsequent children; those who had breast fed for longer than a month usually chose to breast feed again, but those who had been less successful often changed to bottle feeding. Thus it is important that mothers both choose to breast feed and breast feed successfully for the first time, to ensure that any subsequent children are also breast fed.

The retrospective nature of the survey makes any discussion of the choice of feeding method of mothers of first babies somewhat tentative; mothers' recollections of their own attitudes and those of other people may have been influenced by their subsequent experiences of feeding a baby. However, analysis of mothers' reactions to a number of statements about methods of feeding identified two independent dimensions of attitudes to breast feeding which seem likely to predict whether or not mothers choose breast or bottle feeding. The first we called 'Distaste for breast feeding'. This attitude is probably formed during adolescence and may be associated with a woman's attitude to her breasts and to her sexual attitudes in general. It is therefore likely to be difficult to change in later life, for example, during pregnancy. Further work is needed both to confirm the importance of such attitudes in relation to breast feeding and to discover how such attitudes develop in order to encourage the formation of a more positive attitude to breast feeding.

The second attitude we called 'Breast feeding is best for the baby'. It encompasses views about both the emotional and physical benefits of breast feeding. This attitude is likely to be more amenable to change through health education during pregnancy as it appears to be based, at least in part, on knowledge and beliefs about breast feeding rather than on deep-seated feelings.

The views of mothers' family and friends were also important in determining the choice of method of feeding. Husbands' views were particularly important, so husbands and potential husbands should be included in any health education programme aimed at encouraging breast feeding.

The health professionals in contact with mothers during pregnancy did not appear to play a significant role in influencing mothers' choice of method of feeding. The majority of mothers did not discuss methods of feeding with anyone at antenatal clinics and the mothers who attended antenatal classes were generally those most likely to choose to breast feed anyway. There would seem to be scope for the staff of antenatal clinics to discuss feeding with mothers and particularly to inform them about the relative merits of breast and bottle feeding, both in terms of the baby's health and the practical advantages and disadvantages of carrying out each method, so that mothers can make an informed choice.

The survey revealed the social and demographic characteristics of mothers who were least likely to choose to breast feed and to whom, therefore, most attention should be directed in any health education programme. These mothers tended to have left school at the minimum age, to have husbands in manual occupations and to be younger than other mothers. Breast feeding was less often chosen by mothers living in the north rather than the south of the country; this relationship persisted when allowance was made for regional differences in mothers' social and demographic characteristics.

15.3 Factors influencing duration of breast feeding

The survey found that over half the mothers who started breast feeding had stopped by six weeks; almost a third stopped in the first two weeks. Mothers of more than one child who had previously breast fed for more than six weeks were significantly more likely to be breast feeding at both six weeks and four months than mothers who had previously breast fed for a shorter length of time or who had not breast fed before; this relationship held when mothers' education and social class were taken into account. This result implies that mothers who have previously breast fed for six weeks or less may need as much help with breast feeding as those who are breast feeding for the first time.

By far the most common reason given by mothers for stopping breast feeding was that they did not (or thought they did not) have sufficient milk. This was the main reason given by mothers who stopped breast feeding at any time before six months. Physical problems with breast feeding, such as the baby not sucking properly, sore nipples, inverted nipples and illness of mother or baby, were commonly given as reasons for stopping breast feeding in the first few weeks. It might be argued that mothers who feel guilty about stopping breast feeding give 'acceptable' reasons, such as insufficient milk, rather than saying that they did not like breast feeding or found it too restricting. Although this might apply to some mothers, it was clear from the answers that a large proportion of mothers who mentioned physical problems did not want to stop breast feeding and were genuinely upset at what they regarded as their failure to breast feed.

Most mothers of first babies, which included the majority of those breast feeding for the first time, stayed in hospital for a week or more, so the way the hospitals managed breast feeding could be crucial to their success. It was found that 18 per cent of mothers who attempted to breast feed had stopped before they were discharged from hospital. The results indicated a number of areas where a change in common hospital practices might be expected to lead to a decrease in the proportion of mothers stopping breast feeding while in hospital or soon after discharge.

Delays in starting breast feeding of more than four hours and in particular of more than twenty four hours were shown to be associated with stopping breast feeding in the first two weeks. Some delays were unavoidable because of the condition of either the mother or the baby, for example when the mother had had a Caesarean delivery or the baby required immediate admission to a special care baby unit. However, in many cases it appeared that mothers did not start breast feeding until a set hospital feeding time, thus babies born towards the end of the day were seldom put to the breast until the first feed the next morning.

Intervention in the process of labour and delivery was associated with early failure of breast feeding in so far as both were associated with delays in starting breast feeding, and these relationships were still apparent when mothers who had had Caesarean deliveries or whose babies had been admitted to special care within four hours of the birth had been omitted from the analysis.

If the baby was admitted to a special care unit it was not possible to determine whether the baby's condition or delays in starting breast feeding associated with the baby needing special care had the more important effect on breast feeding, particularly since many very small or ill babies were not breast fed at all. A similar argument can be applied to mothers who had Caesarean deliveries.

Mothers who breast fed on demand or according to a flexible feeding schedule were less likely to stop breast feeding in the first two weeks than mothers who fed according to a rigid feeding schedule. Mothers were often critical of a rigid schedule as they did not like having to leave the baby crying or waking the baby for a feed; in both cases mothers reported that the baby often did not take the feed well. A previous study[1] showed that nursing staff preferred a self-demand feeding schedule, quite apart from any advantages it might hold for mother or baby. It might be easier for the nursing staff to help mothers feed their babies if they were not all feeding at the same time.

Mothers' reports indicated that the practice of giving complementary bottles of artificial milk to breast fed babies was widespread and it seemed unlikely that bottles were given only when strictly necessary. However, we were unable to examine the effect of this practice on early failure of breast feeding. In the absence of specific medical indications there would seem to be no advantage in encouraging mothers to give complementary bottles of milk. Extensive complementary feeding would in time affect the amount of milk produced by the mother and might cause her to lose confidence in her ability to produce enough milk for her baby.

The majority of mothers were in at least daily contact with a midwife for the first ten days after the birth. Midwives are thus ideally placed to help and advise mothers with breast feeding problems during this time. Most mothers experienced some problems, the most important of which, in relation to stopping breast feeding, was insufficient milk. This was also the main problem and cause of failure after the first ten days, and so health visitors, usually the main source of professional advice once contact with the midwife has ceased, also need to be able to advise mothers with this and other problems of breast feeding. Mothers appeared to be more likely to be advised to give bottles or even to stop breast feeding than to first try to increase their milk supply by, for example, feeding the baby more frequently. Most mothers who gave complementary bottles because they thought they did not have enough milk stopped breast feeding within two weeks, although many mothers said that they decided to stop because they did not like both breast and bottle feeding rather than that complementary feeding caused them to stop.

---

[1] Illingworth, RS and Stone, DGH
op cit p110

15.4 The introduction of solid food

Despite the DHSS recommendation that mothers should not give their babies any solid food before the age of four months, almost all had done so; 40 per cent of mothers had started giving solid food before the age of six weeks, and these mothers were more likely to be bottle feeding than breast feeding. This relationship and the reasons given by mothers for starting solid food suggest that if the baby appears to want more food or to be fed more often than the mother thinks it should, a breast feeding mother is likely to think that she is not producing enough milk and therefore gives a bottle, whereas a mother who is already bottle feeding starts giving solid food rather than giving extra milk. Possibly mothers' expectations of babies' behaviour at different ages, particularly in respect of how much they should sleep and how often they should be fed, are unrealistic, in which case education on these topics, perhaps during pregnancy, might be beneficial.

Appendix I Sampling report (by Denise Lievesley)

I.1 Introduction

The main purpose of the survey was to obtain estimates of the incidence and duration of breast feeding in the first year of life in England and Wales. The sample required was therefore either one of births or of mothers who had recently given birth. In practice these are virtually the same since, with the exception of multiple births, there is a one to one correspondence between mothers and newborn babies.

It was considered important to interview mothers soon after they had given birth for three reasons:

i) to establish accurately the proportion of babies who were breast fed for very short periods of time

ii) to obtain accurate information about the circumstances which lead mothers to stop breast feeding in the first few weeks

iii) to obtain information about the antenatal period, in particular about factors affecting mothers' choice of feeding method, which would not be too distorted by memory or subsequent events.

For these reasons we planned to interview mothers when their babies were in their first four to six weeks of life.

In relation to the reasons for mothers' choice of feeding method, it became clear from exploratory work that the method chosen for the first child affected decisions about the method of feeding subsequent children. We therefore required a large enough sample of mothers of first babies to carry out separate analyses, and decided to oversample these mothers by a factor of 1.76 rather than to increase the overall sample size.

In order to estimate duration of breast feeding over the whole of the first year of life we needed to follow up mothers who were breast feeding until the time they stopped. We also needed to follow up at least some of the other mothers so that we could estimate the proportion of mothers who had started giving their babies solid food by different ages and factors affecting their decision to start. The requirements of the follow-up sample will be dealt with more fully in Section I.6.

I.2 Sample design

I.2.1 Overall sampling procedure

A two stage design was used in which registration sub-districts or groups of sub-districts were selected at the first stage and, within those areas, draft birth registrations were sampled. The selection of these birth forms was carried out by the staff of the Vital Statistics Branch of OPCS.

It was essential to interview mothers with babies of approximately the same age; as far as possible within a week of the same age. The sample size was too large to enable all the mothers to be interviewed in the same week and so four separate weekly samples of mothers were interviewed in each area, each weekly quota consisting of mothers of babies born in the same week.

Since babies can be registered at any time up to six weeks after the birth, a sample of all babies born in a specified week would mean that the babies would be at least eight weeks old by the time the mothers were interviewed. However, 91 per cent of births are registered within the first four weeks. The sample was therefore restricted to babies registered within four weeks of birth; thus the nine per cent who are registered after four weeks of age had no chance of inclusion in the sample.

Each weekly quota consisted of babies born six to seven weeks previously and registered at up to four weeks of age (ie 3-7 weeks previously). However, as Table I.1 shows, the whole sampling procedure was spread over seven weeks, since samples were drawn from weekly batches of registrations.

In order to interview the mothers before the babies were six weeks old fast processing was required. For example, registrations of babies aged three to four weeks had to be sampled, written on address lists, and allocated and posted to an interviewer within two weeks. This also meant that interviewers had to plan their work carefully, approaching the mothers of the oldest babies first.

I.2.2 Initial sample size

We estimated what the distribution of the sample might be in terms of the main variables we expected to use in the analysis: parity, feeding method and social class, and then considered the numbers we would require in each category to carry out the depth of analysis we envisaged. This led us to aim for an achieved sample of 2000 babies, and so, assuming a response rate of 85 per cent, we decided to issue a sample of approximately 2350.

I.2.3 Selection of areas

Registration districts and sub-districts vary greatly both in geographical size and the number of births occurring within them. In order to minimise variation in quota sizes whilst reducing interviewers' travelling costs, two procedures were carried out:

i) contiguous areas with low numbers of births were grouped together

ii) in those areas where the birth rate was particularly low, (under 130 births in the first quarter of 1975) and where grouping would have meant over-large areas, the estimated quota size was reduced by half and the number of such areas to be selected was doubled.

100 areas were selected with probability proportional to the number of births occuring in the first quarter of 1975.

I.2.4 Selection of birth registrations

In order to achieve a self-weighting design the sampling fractions used to select birth registrations within

Table I.1 Sampling procedure

Age of baby when registered:	Sampling week 1	2	3	4	5	6	7
birth - 1 week	A	B	C	D	*	*	*
1 week 1 day - 2 weeks	*	A	B	C	D	*	*
2 weeks 2 days - 3 weeks	*	*	A	B	C	D	*
3 weeks 3 days - 4 weeks	*	*	*	A	B	C	D
Over 4 weeks	*	*	*	*	*	*	*

* not sampled
A sampled and allocated to the first week of interviewing
B sampled and allocated to the second week of interviewing
C sampled and allocated to the third week of interviewing
D sampled and allocated to the fourth week of interviewing

selected areas were calculated using the same data as was used for the selection of areas (ie the number of births occuring in the first quarter of 1975).

It was necessary to estimate the difference in the number of births between the first quarter of 1975 and the time of the survey and also the proportion of these births which would be registered within four weeks. The number of births occuring each year has been falling, but the seasonal variation is fairly constant from year to year. It was assumed that such trends would continue, and since in 1974 there was a fall of eight per cent between the first and fourth quarters, estimates were based on 92 per cent of the first quarter of 1975 births.

I.3 Response rates at the main stage

There were 2304 babies selected and their mothers approached for interview. The overall response rate was 91 per cent. Table I.2 summarises the losses due to various sources of non-response.

Table I.2 Response rates and non-response at the main stage

	No.	%
Set sample	2304	100
Total non-response:	194	8
Ineligible for interview	56	2
Refusal	63	3
Non-contact	75	3
Total interviews	2110	92
Interviews withdrawn	7	0
Total acceptable interviews	2103	91

The 'ineligible for interview' comprised three main categories:

i) the baby had died

ii) the baby and mother were permanently separated (eg the baby was fostered or adopted)

iii) the baby had been in hospital since birth.

'Non-contact' included those cases where the interviewer was unable to contact the mother while her baby was within the appropriate age range, and 'refusal' included mothers who could not be interviewed during this period although contact had been made. The period of eligibility for each interview resulted in an artificial increase in the level of non-response.

Seven interviews had to be withdrawn because the mothers' command of English was inadequate for the information given to be used.

I.4 Reweighting

First births were oversampled by a factor of 1.76. Thus, in order to be able to add results for first births to results for other births a reweighting factor of 0.57 has to be applied to all results for first births.

I.5 The follow-up sample

DHSS recommend that mothers breast feed their babies for between four and six months and do not give babies solid food before four months of age. We therefore thought it would be appropriate to carry out follow-up interviews with mothers when their babies were four months old. In order to give a complete picture of the prevalence of breast feeding up to a year we then planned to follow up by postal questionnaire mothers who were still breast feeding when interviewed at four months. In order to estimate the prevalence of breast feeding up to one year it was not necessary to follow up all mothers who had been breast feeding when first interviewed. Similarly, in order to estimate the proportion of mothers who had started giving solid food before the age of four months and to obtain a general picture of feeding practices at four months we needed to follow up only a small proportion of the other mothers.

I.5.1 Sample size

Of the 2103 mothers interviewed at the main stage, 2086 agreed to be included in a follow up survey. Of these, 520 were breast feeding at the time of the first interview. We decided that we needed to follow up at least 250 babies who were breast fed at the time of the first interview and a similar number of other babies. We therefore selected half of those babies breast fed at the time of the first interview and one sixth of the remainder.

I.5.2 Sample design

The major constraint on the sample design was that the follow-up sample should be clustered into 50 rather than 100 areas in order to reduce the number of interviewers required. It was not feasible to pair areas since the 100 original areas were very scattered and some were very large; it was therefore necessary to select 50 areas in which the follow-up sample would be drawn. A systematic random sample of half the original 100 areas was drawn. Within these areas all babies who were breast fed at the time of the original interview and one third of the rest were selected for the follow-up stage. A total of 535 babies were selected.

I.5.3 Reweighting factors

The sample for the follow-up stage was selected so that, after reweighting to adjust for different probabilities of selection, it should have the same distribution of parity and feeding method as the main stage sample. However, there were some differences due to sampling error. For example, although we made a random selection of the 50 areas, by chance they contained more than half the births. The reweighting factors were calculated to take account of this and also of differential response rates. The reweighting factors for the follow-up stage are shown in Table 1.3.

We have up-weighted for method of feeding rather than down-weighting to facilitate comparisons between bases on different tables and parts of tables.

Table I.3 Reweighting factors for the follow-up stage

Breast fed at first interview:	
First births	1.06
Second and subsequent births	2.05
Bottle fed at first interview:	
First births	3.81
Second and subsequent births	6.64

I.5.4 Response rates at the follow-up stage (4 months)

Of the 535 mothers approached at the follow-up stage 509 were interviewed. Table I.4 gives details of the non-response.

Table I.4 Response rates at the follow-up stage (4 months)

	No.	%
Set sample	535	100
Total non-response:	26	5
Refusal	7	1
Non-contact	19	3
Total interviews	509	95

1.6 The postal follow-up stages

There were 154 mothers still breast feeding at the time of the second interview. They were sent a postal questionnaire when their babies were six months old. 151 replied, a response of 98 per cent.

According to answers on the postal questionnaire at six months, 97 mothers were still breast feeding. They were sent a further questionnaire when their babies were a year old, 92 replied, a response of 95 per cent.

I.7 Validity of the samples

I.7.1 The main stage sample

There were two possible sources of bias which might affect the validity of the main stage sample; babies registered more than four weeks after the birth were not included in the sample and might differ from those who were included and babies with whose mothers an interview was not achieved might differ from those whose mothers were interviewed.

The only information available for all babies which could be used to check the possible sources of bias was that included on the birth registration forms. Comparisons could therefore be made of the region in which the birth occurred, the baby's sex, and the social class of the baby's father. The proportion of home births was too small for whether or not the baby was born at home to be used as a variable for comparison.

Comparisons between babies registered in the first four weeks and those registered later than this, who were not included in the sample, revealed no significant differences between the two groups in respect of any of the variables mentioned above.

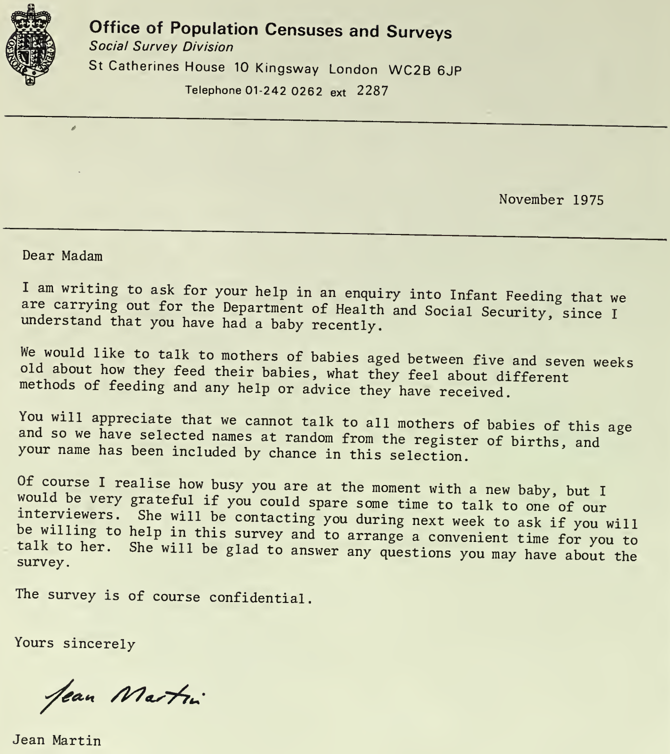
Babies whose mothers were not interviewed, that is those in the non-response category, did not differ in respect of the region of their birth or their sex from those whose mothers were interviewed. Babies with a father in social class V and those with no father entered on the registration form were over-represented in the refusal/non-contact category of non-response, and babies with no father entered on the registration form were over-represented in the ineligible category. (Ineligible babies included those who were fostered or adopted.) However, the non-response category formed a sufficiently small proportion of the total sample selected for there to be no significant difference between the selected sample and the sample with which interviews were achieved in respect of the social class of the baby's father and whether or not the father was entered on the registration form.

I.7.2 The follow-up sample

The validity of the follow-up sample could have been affected by two sources of bias since only a proportion of the original sample was selected for the follow-up stage and some of those selected were not in fact interviewed. Since all the information from the first interview was available for all babies, regardless of whether or not they were included in the follow-up stage, it was possible to carry out comprehensive checks on the representativeness of the follow-up sample.

The main and follow-up samples were compared with respect to the main variables used in the analysis: social class, age at which mother finished full time education, whether the baby was a first birth, initial method of feeding, region in which the baby was born, duration of breast feeding (up to six weeks), whether or not solids had been introduced before six weeks. No significant differences between the two samples were found.

Appendix II The Survey Documents



Office of Population Censuses and Surveys
Social Survey Division
St Catherines House 10 Kingsway London WC2B 6JP
Telephone 01-242 0262 ext 2287

November 1975

Dear Madam

I am writing to ask for your help in an enquiry into Infant Feeding that we are carrying out for the Department of Health and Social Security, since I understand that you have had a baby recently.

We would like to talk to mothers of babies aged between five and seven weeks old about how they feed their babies, what they feel about different methods of feeding and any help or advice they have received.

You will appreciate that we cannot talk to all mothers of babies of this age and so we have selected names at random from the register of births, and your name has been included by chance in this selection.

Of course I realise how busy you are at the moment with a new baby, but I would be very grateful if you could spare some time to talk to one of our interviewers. She will be contacting you during next week to ask if you will be willing to help in this survey and to arrange a convenient time for you to talk to her. She will be glad to answer any questions you may have about the survey.

The survey is of course confidential.

Yours sincerely

Jean Martin

Jean Martin

Office of Population Censuses and Surveys
Social Survey Division
St Catherines House 10 Kingsway London WC2B 6JP
Telephone 01-242 0262 ext 2287

Your reference

Our reference

Date April 1976

Dear

Infant Feeding Survey

I expect you remember talking to one of our interviewers in February about how you were feeding your baby. I believe you said that you were breast feeding at that time. We are now trying to find out how many mothers are breast feeding their babies when they are six months old and would be most grateful if you could help us by answering the questions below on the tear-off slip and returning it to us in the pre-paid envelope provided.

Thank you once again for your help.

Yours sincerely

Jean Martin

Jean Martin

Serial number ☐☐☐☐☐☐

Tick one box

☐ I am still breast feeding

☐ I have now stopped breast feeding

IF YOU HAVE STOPPED BREAST FEEDING

How old was your baby when you stopped breast feeding?

-------------- weeks

What were your reasons for stopping breast feeding?

Office of Population Censuses and Surveys
Social Survey Division
St Catherines House 10 Kingsway London WC2B 6JP
Telephone 01-242 0262 ext 2287

Your reference

Our reference

Date October 1976

Dear

INFANT FEEDING SURVEY

You may remember receiving a letter from us in April asking about how you were feeding your baby. I believe you said you were breast feeding at that time, when your baby was six months old. We are now trying to find out how long mothers continue to breast feed and would be moat grateful if you would help us again by answering the questiona below on the tear-off slip and returning it to us in the pre-paid envelope provided.

Thank you once again for your help.

Yours sincerely

Jean Martin

Jean Martin

- -

Serial number ☐☐☐☐☐

Tick one box

☐ I am still breast feeding

☐ I have now atopped breast feeding

IF YOU HAVE STOPPED BREAST FEEDING

How old was your baby when you stopped breast feeding?

- - - - - - - - - months.

S1064

Area No.	Person No.	Week No.
☐☐	☐☐	☐☐

INFANT FEEDING

Interviewer's name............................. Authorisation No. ....

Baby's name ....

Male 1

Female ... 2

	Day	Month	Year
Baby's date of birth	☐	☐	☐
Date of interview	☐	☐	☐

Baby's age at interview .... weeks .... days

OFFICE USE:

I 1

L 2

Weight item 1
2

1. Is ——— (SAMPLED BABY) your first baby?

Yes .. 1 go to Q2
No ... A ask (a)-(d)

IF NOT FIRST BABY (A)

(a) How many children have you had born alive to you?

Number of children horn to mother .....

STARTING WITH THE ELDEST CHILD ASK:

(b) What is his/her name?
(c) How old was he/she last birthday? (or at time of death or adoption)
(d) (May I check) is he/she living at home?

ENTER DETAILS BELOW

DO NOT INCLUDE SAMPLED BABY

Child RING NO.	(b)			(c)	(d) Living at home?			Been adop -ted	OFFICE USE
	Name	Male	Female	Age	Yes	No	Dead		
1		1	2		1	2	3	4	
2		1	2		1	2	3	4	
3		1	2		1	2	3	4	
4		1	2		1	2	3	4	
5		1	2		1	2	3	4	
6		1	2		1	2	3	4	
7		1	2		1	2	3	4	

ASK ALL

2. Apart from your baby/children, who else lives here with you regularly?

RING NO.	Relationship to mother	Under 16 years	16+ years	OFFICE USE
1	INFORMANT	1	2	
2		1	2	
3		1	2	
4		1	2	
5		1	2	
6		1	2	
7		1	2	
8		1	2	
9		1	2	
10		1	2	

ASK IF NO HUSBAND IN HOUSEHOLD BOX

OTHERS DNA A go to Q5

3. (a) Can I just check, are you ...

RUNNING PROMPT

married 1
single 2
widowed 3
divorced 4
or separated? 5

IF IN DOUBT, ASK

(b) Can I just check, does ____'s father live here regularly?

Yes .. 1
No ... 2

4. IF BABY'S FATHER IN HOUSEHOLD WRITE IN PERSON NO. (Q2) ....

CODE FOR ALL

5. IF INFORMANT IS MARRIED OR BABY'S FATHER IS IN HOUSEHOLD
HUSBAND (BABY'S FATHER) QUESTIONS WILL APPLY 1

OTHERS
HUSBAND (BABY'S FATHER) QUESTIONS DNA 2

Q6 CHECK

Breast feeding now ...A

Tried breast feeding but stopped..........B

Bottle fed completely.C

Q39 & 40 CHECK

Home birth ....D

Hospital birth........E

Length of time in hospital

......hrs OR ......days.

I'd like to begin by talking about how you feed —— at present.

6. At the moment, is he/she bottle fed or breast fed?

DO NOT PROMPT

Bottle fed now..	A	ask (a)
Breast fed now..	1	Code A on flap & go to Q7
Both now........	2	Code A on flap & go to Q8

IF BOTTLE FED NOW (A)

(a) Did you try breast feeding him/her at all, or not?

Yes..	3	Code B on flap & ask (i)
No...	4	Code C on flap & go to Q9

IF TRIED BREAST FEEDING (3)

(i) How long did you breast feed —— for?

......weeks and ......days.

GO TO Q9

7. Do you ever give —— a bottle of milk at the moment?

Yes..	1	go to Q8
No...	2	go to Q11

8. Do you give —— a bottle of milk at least once a day or less often than that?

At least once a day..	1	ask (a)&(b)
Less often...........	2	ask (b)

IF AT LEAST ONCE A DAY (1)

(a) Do you give both bottle and breast at the same feed or at different feeds?

Same feed........	4	ask (b)
Different feeds..	5	

(b) Does —— have a bottle...

INDIVIDUAL PROMPT

	Yes	No
When you don't have enough milk?............	1	X
When someone else feeds him/her?................	2	X
Or for any other reason.. (SPECIFY)	3	X

9. You told me you give —— a bottle of milk (sometimes). What brand of milk do you give him/her at the moment?

Brand:

SHOW CARD A IF NECESSARY TO GET EXACT BRAND.
IF MOTHER UNCERTAIN ASK TO SEE PACKET OR TIN.

10. Has —— always had ——(brand at Q9) or has he/she ever had a different kind of milk? (Including any he/she had in hospital)

Always had aame ...	1	go to Q11
Had different milk.	A	ask (a)

IF HAD DIFFERENT KIND OF MILK (A)

(a) Which kind of milk did he/she have first of all/next?

SHOW CARD A IF NECESSARY

LIST ALL CHANGES FIRST, THEN ASK (b)-(c) FOR EACH

RING NO.	(a) Changed from	to	(b) Baby's age at change	(c) Why did you change from —— to ——?
1			......days OR ......weeks	
2			......days OR ......weeks	
3			......days OR ......weeks	
4			......days OR ......weeks	
5			......days OR ......weeks	

INTERVIEWER: CHECK LAST BRAND IS SAME AS AT Q9
CHECK TOTAL NUMBER OF CHANGES ....

OFFICE USE

☐

ASK ALL

11. Have you tried giving —— foods such as cereal or rusks, or any other kinds of solid food?

Yes.. 1 ask (a)-(f)
No... 2 go to Q12

IF GIVEN SOLID FOOD (1)

(a) What was the first food of this type you tried giving him/her?

Type:

Brand:

(b) How did you give it to him/her the first time?

CODE ONE ONLY

Spoon............ 1
Bottle........... 2
Fingers.......... 3
Other (SPECIFY) 4

(c) How old was he/she when you first tried giving him/her this?

.........weeks ....days

(d) Why did you decide to start giving him/her —— (answer at (a)) then?

O

(e) Did anyone advise you to start giving cereal (solid food) then?

Yes.. 1 ask (i)
No... 2 go to (f)

IF YES (1)

(i) Who advised you to start giving cereal (solid food)?

(f) (Can I just check) are you still giving —— cereal, rusks or any other kind of solid food?

Yes.. 3 go to Q12
No... 4 ask (i)&(ii)

IF NO (4)

(i) How old was he/she when you stopped?

.........weeks ....days

(ii) Why did you stop?

O

Mothers sometimes give babies fruit juice and additional vitamins.

12. Do you ever give —— any fruit juice?

Yes .. 1 ask (a)
No ... 2 go to Q13

IF GIVES FRUIT JUICE (1)

(a) What sort of fruit juice do you give him/her?

Type:

Brand:

13. Do you ever give —— drinks of water?

Yes .. 1
No ... 2

14. (Apart from fruit juice) do you give —— any extra vitamins at all?

Yes .. 1 ask (a)
No ... 2 go to Q15

IF GIVES EXTRA VITAMINS (1)

(a) What brand do you use?

We are interested in exactly how babies of this age are fed.

15. I'd like you to tell me what —— had yesterday, including anything he/she may have had in between his/her main feeds (water, fruit juice, etc).

START WITH THE FIRST FEED AFTER MIDNIGHT YESTERDAY
ASK FOR EACH FEED (AND FILL IN TABLE):

(a) What time did you feed him/her?
(APPROXIMATELY. USE 24 HOUR CLOCK)

(b) What did he/she have?

IF SOLID FOOD

(i) Did you make it or buy it?

IF BOUGHT

(A) What brand did you use?

(c) How did you give it to him/her?

(a) Time	(b) Food	SOLID FOOD ONLY (i) Home made	(A) (OR) Brand	(c) Method Breast	Bottle	Cup	Spoon	Fingers	Dinky Feeder	Other
		1		1	2	3	4	5	6	7
		1		1	2	3	4	5	6	7
		1		1	2	3	4	5	6	7
		1		1	2	3	4	5	6	7
		1		1	2	3	4	5	6	7
		1		1	2	3	4	5	6	7
		1		1	2	3	4	5	6	7
		1		1	2	3	4	5	6	7
		1		1	2	3	4	5	6	7
		1		1	2	3	4	5	6	7
		1		1	2	3	4	5	6	7
		1		1	2	3	4	5	6	7
Office use	1 2 3 4 5	6	7 8 9	10	11	12	13	14	15	16

And can I just check, did you give —— anything else (such as water or fruit juice) between his/her main feeds? (INCLUDE IN TABLE).

INTERVIEWER CHECK: IF SOLIDS ARE MENTIONED AT Q.15, CHECK THAT THEY ARE INCLUDED IN Q.11

16. Was yesterday a typical day for ——— as far as his/her diet is concerned?

Yes .. 1 go to Q17
No ... 2 ask (a)

IF NO (2)

(a) In what way was yesterday not typical?

Now I'd like to talk about how you decide when to feed ——.

17(a) About how often do you feed him/her?

DO NOT PROMPT On demand 1

every ....hours

(b) And is this at more or less the same time every day?

Yes .. 1 go to (c)
No ... 2 ask (i)&(c)

IF NO (2)

(i) So how do you decide when to feed him/her?

(c) If ———woke up and seemed hungry an hour before the next feed was due, what would you do?

18. ASK IF NOT FIRST BABY (Q1 CODE A)

FIRST BABY (Q1 Code 1) DNA | A | go to Q20

INTERVIEWER CHECK BACK TO FLAP

SAMPLED BABY BOTTLE FED COMPLETELY (FLAT CODE C)
SAMPLED BABY BREAST FED AT ALL (FLAP CODE A OR B)

CODE IN BOX (a) BELOW

Up to now we've been talking about how you feed ——, but now could we talk about how you feed your other child(ren) when he/she was a baby (they were babies).

REFER TO Q1 FOR CHILDRENS' NAMES
START WITH ELDEST AND ASK FOR EACH CHILD

(a) Was —— (eldest child) completely bottle fed, or did you breast feed him/her at all?

RECORD DETAILS ON CHART

Ring No.	Name	(a) Bottle fed completely	(a) Breast fed at all	OFFICE USE 1	OFFICE USE 2
A	SAMPLED BABY	1	2	☒	☒
1		1	2		
2		1	2		
3		1	2		
4		1	2		
5		1	2		
6		1	2		

ASK OF ELDEST CHILD

(b) Why did you decide to breast/bottle feed —— (to start with)?

0 PROBE FULLY

ASK FOR ALL BREAST FED CHILDREN (Q18 Code 2)

OTHERS DNA | A | see interviewer check Q19

(i) How long did you breast feed ——for?

0(ii) Why did you stop breast feeding him/her then?

RECORD DETAILS ON CHART. DO NOT INCLUDE NAMED BABY.
OBTAIN CHILD'S NUMBER FROM (a).

Child No.				
(i) How Long	.... days or ..... weeks or ..... months	.... days or ..... weeks or ..... months	.... days or ..... weeks or ..... months	.... days or ..... weeks or ..... months
(ii) Reasons				

INTERVIEWER CHECK:

ALL CHILDREN FED BY SAME METHOD	1	go to Q20
CHILDREN FED BY DIFFERENT METHODS...	2	ask Q19

CHILDREN FED BY DIFFERENT METHODS (2)

19. Why didn't you feed both (all the children by the same method to start with?

0

ASK ALL

Can we go back now to talk about the time leading up to ——'s birth.

20. When did you decide how you would feed ——?

PROMPT AS NECESSARY

Before became pregnant..	1
During pregnancy........	2
After ——'s birth......	3
Other (SPECIFY).........	4

21. Did you think you would bottle feed or breast feed?

CODE FINAL DECISION

Bottle feed..	1
Breast feed..	2

22. Why did you think you would bottle feed/breast feed?

0 PROBE FULLY

ALL WHO PLANNED TO BREAST FEED (Q21 Code 2)

OTHERS DNA..	A	go to Q24

23. While you were pregnant did you do anything to prepare your breasts in any way for feeding the baby?

Yes..	1	ask (a)&(b)
No...	2	go to Q24

IF YES (1)

(a) What did you do?

(b) Were you advised by anyone to do this?

Yes..	1	ask (i)
No...	2	go to Q24

IF YES (1)

(i) Who advised you to do this?

ASK ALL

24. While you were pregnant did you have any antenatal checkups?

Yes..	A	ask (a)
No...	1	ask (b)

IF YES (A)

(a) Did you go to...

INDIVIDUAL PROMPT

CODE ALL THAT APPLY

	Yes	No	
a hospital?...............	2	X	ask Q25
your own doctor's surgery or clinic?...............	3	X	ask Q26
a local clinic?...........	4	X	ask Q27
or somewhere else?......... (SPECIFY)	5	X	ask Q28

IF NO (1)

(b) Can I just check, why didn't you have any antenatal checkups?

0

GO TO Q29

IF HAD ANTENATAL CHECKUPS AT HOSPITAL (Q24 Code 2)

25(a) When you went to the hospital for antenatal checkups, who did you go to see?	CODE ALL THAT APPLY	Doctor............ Nurse or midwife.. Other (SPECIFY)...	1 2 3	ask (b)
(b) Did anyone ask you how you planned to feed the baby?		Yes.. No...	1 2	ask (i) ask (c)
IF YES (1) (i) Who was that?	CODE ALL THAT APPLY	Doctor............ Nurse or midwife.. Other (SPECIFY)...	1 2 3	ask (c)
(c) Did anyone discuss feeding the baby with you?		Yes.. No...	1 2	ask (i) see Q26
IF YES (1) (i) Who waa that?	CODE ALL THAT APPLY	Doctor............ Nurse or midwife.. Other (SPECIFY)...	1 2 3	ask (ii)

(ii) Do you think the ——— preferred you to:

	WRITE CODE OF PERSON AT (i)			
RUNNING PROMPT	bottle feed...... breast feed...... or showed no feelings either way?............	1 2 3	1 2 3	1 2 3

Q24 CODE 2 ONLY GO TO Q29. OTHERS ASK Qs 26-28 IF APPLICABLE

IF HAD ANTENATAL CHECKUPS AT OWN DOCTOR'S SURGERY OR CLINIC (Q24 Code 3)

26(a) When you went to the doctor's aurgery/clinic for antenatal checkups, who did you go to see?	CODE ALL THAT APPLY	Doctor............ Nurse or midwife.. Other (SPECIFY)...	1 2 3	ask (b)
(b) Did anyone ask you how you planned to feed the baby?		Yes.. No...	1 2	ask (i) ask (c)
IF YES (1) (i) Who was that?	CODE ALL THAT APPLY	Doctor............ Nurse or midwife.. Other (SPECIFY)...	1 2 3	ask (c)
(c) Did anyone discuss feeding the baby with you?		Yes.. No...	1 2	ask (i) see Q27
IF YES (1) (i) Who was that?	CODE ALL THAT APPLY	Doctor............ Nurse or midwife.. Other (SPECIFY)...	1 2 3	ask (ii)

(i) Do you think the ——— preferred you to:

	WRITE CODE OF PERSON AT (i)			
RUNNING PROMPT	bottle feed...... breast feed...... or showed no feelings either way?............	1 2 3	1 2 3	1 2 3

Q24 CODE 2 OR 3 ONLY GO TO Q29. OTHERS ASK Qs 27-28 IF APPLICABLE

IF HAD ANTENATAL CHECKUPS AT LOCAL CLINIC (Q24 Code 4)

27(a) When you went to the clinic for antenatal checkups, who did you go to see?

CODE ALL THAT APPLY

Doctor............	1	ask (b)
Nurse or midwife..	2	
Other (SPECIFY)...	3	

(b) Did anyone ask you how you planned to feed the baby?

Yes..	1	ask (i)
No...	2	ask (c)

IF YES (1)

(i) Who was that?

CODE ALL THAT APPLY

Doctor............	1	ask (c)
Nurse or midwife..	2	
Other (SPECIFY)...	3	

(c) Did anyone discuss feeding the baby with you?

Yes..	1	ask (i)
No...	2	see Q28

IF YES (1)

(i) Who was that?

CODE ALL THAT APPLY

Doctor............	1	ask (ii)
Nurse of midwife..	2	
Other (SPECIFY)...	3	

(ii) Do you think the ——— preferred you to:

RUNNING PROMPT

WRITE CODE OF PERSON AT (i)			
bottle feed......	1	1	1
breast feed......	2	2	2
or showed no feelings either way?............	3	3	3

Q24 CODES 2-4 ONLY GO TO Q29. Q24 CODE 5 ASK Q28

IF HAD ANTENATAL CHECKUPS SOMEWHERE ELSE (Q24 Code 5)

28(a) When you went to the ——— for antenatal checkups, who did you go to see?

CODE ALL THAT APPLY

Doctor............	1	ask (b)
Nurse or midwife..	2	
Other (SPECIFY)...	3	

(b) Did anyone ask you how you planned to feed the baby?

Yes..	1	ask (i)
No...	2	ask (c)

IF YES (1)

(i) Who was that?

CODE ALL THAT APPLY

Doctor............	1	ask (c)
Nurse or midwife..	2	
Other (SPECIFY)...	3	

(c) Did anyone discuss feeding the baby with you?

Yes..	1	ask (i)
No...	2	go to Q29

IF YES (1)

(i) Who was that?

CODE ALL THAT APPLY

Doctor............	1	ask (ii)
Nurse or midwife..	2	
Other (SPECIFY)...	3	

(ii) Do you think the ——— preferred you to:

RUNNING PROMPT

WRITE CODE OF PERSON AT (i)			
bottle feed......	1	1	1
breast feed......	2	2	2
or showed no feelings either way?............	3	3	3

GO TO Q29

ASK ALL

29. While you were pregnant (with ——) did a midwife or health visitor visit you at home at all?

	Yes..	1	ask (a)&(b)
	No...	2	go to Q30

IF YES (1)

(a) Who came to see you?	Midwife..........	1	
	Health visitor...	2	
	Other (SPECIFY)..	3	
(b) Why did she visit you?			

30. While you were pregnant (with ——) did you go to any classes on mothercraft or to prepare you for having the baby?

	Yes..	1	ask (a)-(c)
	No...	2	go to Q31

IF YES (1)

(a) Did your husband (the baby'a father) go to any of the classea?	NO HUSBAND (OR SUBSTITUTE) DNA...	1	ask (b)
	Yes..	2	
	No...	3	

		1st set of classes	2nd set of classes
(b) Were the classes organised by... RUNNING PROMPT	a hospital................	1	1
	a local clinic............	2	2
	or another organiaation?.. (SPECIFY)	3	3
(c) Did the classes include talks or discussions about feeding babies?	Yes..	1 ask (i)	1 aak (i)
	No...	2 go to Q31	2 go to Q31
IF YES (1) (i) Do you think the people who took the classes preferred you to... RUNNING PROMPT	bottle feed............	1	1
	breast feed............	2	2
	or showed no preference either way?............	3	3

IF ATTENDED MORE THAN ONE SET OF CLASSES REPEAT (b) & (c)

31. While you were pregnant (with ——) did you see any films about feeding babies?

	Yes..	1	ask (a)-(d)
	No...	2	go to Q32

IF YES (1)

(a) how many films did you aee? No. of films.......

FOR EACH FILM ASK

	RING NO.			
(b) Did you see the film at RUNNING PROMPT	a hospital	1	1	1
	a local clinic	2	2	2
	or somewhere else?.. (SPECIFY)	3	3	3
(c) What was the film called/ Who made the film?				
(d) Do you think the film encouraged .. RUNNING PROMPT	bottle feeding	1	1	1
	breast feeding	2	2	2
	or showed no bias either way?	3	3	3

32. While you were pregnant (with ——) did you read any books or pamphlets about feeding babies?

	Yea..	1	ask (a)
	No...	2	go to Q33

IF YES (1)

(a) Where did you get thes from?

PROMPT AS NECESSARY	CODE ALL THAT APPLY	Hospital................	1
		Local clinic............	2
		Doctor's surgery/clinic..	3
		Friends.................	4
		Public library..........	5
		Bookshop................	6
		Other (SPECIFY)..........	7

	NO HUSBAND OR SUBSTITUTE DNA	A	go to Q34
33. Did you talk to your husband (the baby's father) about how you planned to feed the baby?	Yes.. No...	1 A	ask (i) ask (a)
IF NO (A) (a) Did (your husband) have any views about how you should feed the baby?	Yes.. No...	2 3	ask (i) go to Q34
IF YES (1 OR 2) (i) Did he think you should bottle feed or breast feed?	Bottle feed.. Breast feed..	1 2	
DO NOT PROMPT	Do whatever informant wanted..	3	

34. Did you talk to your own mother about how you planned to feed the baby?	Yes.. No...	1 A	ask (i) ask (a)
IF NO (A) (a) Did your mother have any views about how you should feed the baby?	NO CONTACT WITH MOTHER DURING PREGNANCY......	2	go to Q35
	Yes.. No...	3 4	ask (i) go to Q35
IF YES (1 OR 3) (i) Did she think you should bottle feed or breast feed?	Bottle feed.. Breast feed..	1 2	
DO NOT PROMPT	Do whatever informant wanted..	3	

35. Apart from the people we have already mentioned, was there anyone else with whom you talked about how you would feed the baby?		Yes.. No...	1 2	ask (a)&(b) go to Q36

IF YES (1)

(a) Who was that?

(b) Did he/she think you should...

	Person			
RUNNING PROMPT	bottle feed.. or breast feed?........	1 2	1 2	1 2
DO NOT PROMPT	Do whatever informant wanted......	3	3	3

Thinking about other mothers you know with young babies.

36. Would you say that most of them bottle fed or breast fed?	Bottle fed.......... Breast fed.......... About half and half..	1 2 3

37. Do you know whether you yourself were...			
	RUNNING PROMPT	bottle fed...................... breast fed...................... or did you have both breast and bottle?.........................	1 2 3
		D.K..	4

Now I'd like to move on to talk about the time when —— was born and what happened afterwards.

38. Did you arrange to have the baby at home, in a G.P. unit or in a hospital?	Home............	1	
	G.P. unit........	2	
	Hospital.........	3	
	Other (SPECIFY)..	4	
39. And can I just check, did you in fact have him/her...	at home.....................	1	Code D on flap & go to Q41
RUNNING PROMPT	in a G.P. unit..............	2	ask (a)
	in hospital.................	3	ask (i)
	or somewhere else (SPECIFY)..	4	go to Q40
IF G.P. UNIT (2) (a) Was the G.P. unit in a hospital or not?	Yes..	7	ask (i)
	No...	8	go to Q40
IF BORN IN HOSPITAL (3 OR 7) (i) What was the name of the hospital?			

ALL HOSPITAL BIRTHS (G.P. UNITS, NURSING HOMES, ETC.)

40(a) How long after —— was born did you atay in hospital (G.P. unit, etc)?

..... hours OR ..... days

CODE E AND WRITE IN ANSWER ABOVE ON FLAP

(b) Was this the length of time you expected to stay in hospital?	Yes..	1	ask (c)
	No...	2	ask (i), (ii) and (c)

IF NO (2)

(i) How long did you expect to stay there?

..... hours OR ..... days

(ii) Why didn't you leave when you expected?

(c) Did the baby leave hospital at the same time as you?	Yes..	1	go to Q41
	No...	2	ask (i)

IF NO (2)

(i) How long after he/she was born did he/she come home?

..... hours OR ..... days.

ASK ALL

Thinking now of the birth itself.

41. Did you go into labour of your own accord or not?	Yes..	1		go to Q42
	No...	A		ask (a)
IF NO (A) (a) Did you... INDIVIDUAL PROMPT CODE FIRST THAT APPLIES	go into hospital to have a planned Caesarean operation?..................	2		go to Q47
	did the doctor/midwife do something to start (induce) your labour?...........	3		ask (i)
	or did your labour start in some other way (SPECIFY)?......................	4		see (i)
IF INDUCED (3) (i) Did the doctor/midwife start you off by... INDIVIDUAL PROMPT CODE ALL THAT APPLY		Yes	No	
	giving you a drip?..............	1	X	
	giving you an injection?.........	2	X	
	giving you medicine or tablets?..	3	X	
	breaking the waters?............	4	X	
	or something else (SPECIFY)?.....	5	X	
42. Once your labour had started, did the doctor/ midwife do anything to speed it up or slow it down?	Yes..	1		ask (a)
	No...	2		go to Q43
IF YES (1) (a) Did they... INDIVIDUAL PROMPT CODE ALL THAT APPLY		Yes	No	
	give you a drip?................	1	X	
	give you an injection?...........	2	X	
	give you medicine or tablets?....	3	X	
	break the waters?...............	4	X	
	or do something else (SPECIFY)?..	5	X	
43. Did you have a normal delivery?	Yes..	1		go to Q44
	No...	A		ask (a)
IF NO (A) (a) Did you have... INDIVIDUAL PROMPT CODE ALL THAT APPLY	forceps?..................	2		go to Q44
	a vacuum extraction?.......	3		
	or a Caesarean operation?..	4		go to Q47

44. While you were in labour were you given any of the following to ease the labour pains...

INDIVIDUAL PROMPT

CODE ALL THAT APPLY

	Yes	No
an epidural (spinal) injection?..	1	X
another type of injection, such as pethidine?....................	2	X
gas and air to inhale?...........	3	X
something else (SPECIFY)?........	4	X
DO NOT PROMPT — Nothing at all..	9	X

45. Did you have to have atitches?

Yes..	1	
No...	2	

NO HUSBAND (OR SUBSTITUTE) DNA	A	go to Q47

46. (a) Was your husband (the baby's father) with you at all while you were in labour?

Yes..	1	ask (b)
No...	2	

(b) Was he there to see the baby born?

Yes..	3	
No...	4	

ASK ALL

47. How much did —— weigh when he/she was born?

......lb ......oz

or

......gm

48. After —— was born, were you alright or was anything the matter with you?

Alright..........	1	go to Q49
Something wrong..	2	ask (a)

IF SOMETHING WRONG (2)

(a) What was the matter?

49. Did —— have any problems, such as jaundice, being premature, or was anything else wrong with him/her?

CODE ALL THAT APPLY

No problems......	1	
Jaundice.........	2	
Premature........	3	
Other (SPECIFY)..	4	

50. Was he/she put in an incubator or any other form of special care at all?

CODE ALL THAT APPLY

No special care..............	1	go to Q51
Incubator....................	2	ask (a)-(c)
Other special care (SPECIFY)..	3	

IF INCUBATOR (2) OR OTHER SPECIAL CARE (3)

(a) Why did he/she need special care?

(b) How soon after —— was born was he/she put into an incubator/special care?

Immediately..	0	

......hours OR ......days.

(c) And how long did he/she stay there altogether?

......hours OR ......days.

IF IN INCUBATOR/SPECIAL CARE MORE THAN 4 HOURS

OTHERS DNA	A	go to Q51

(i) How often did you see him/her while he/she was in the incubator/special care?

Not at all..........	1	go to (iii)
Every feeding time..	2	ask (ii)
Other (SPECIFY).....	3	

(ii) Could you pick him/her up, or not?

Yes..	1	ask (iii)
No...	2	

(iii) How waa he/she fed while he/she was in an incubator/special care?

PROMPT AS NECESSARY

CODE ALL THAT APPLY

Breast fed.................	1	
Expressed breast milk given in bottle or by tube........	2	
Other bottle feeding........	3	
Other tube feeding..........	4	
Other (SPECIFY).............	5	
D.K..	9	

51. What time was —— born?			
..... (USE 24 HOUR CLOCK)			
52. How long after —— was born did you first hold him?	Immediately...	0	
.... mins OR ..... hours			
IF BOTTLE FED COMPLETELY (FLAP Code C)	BREAST FED AT ALL (FLAP Code A or B)DNA	A	go to Q54
53. And how soon after he/she was born did you first give him/her a bottle?	Immediately...	0	
.... mins OR ..... hours OR ..... days GO TO Q55			
IF BREAST FED AT ALL			
54. How long after —— was born did you first put him/her to the breast?	Immediately...	0	
.... mins OR ..... hours OR ..... days			
ASK ALL			
55. Can I just check was this how you planned to feed him/her?	Yes... No....	1 2	go to Q56 ask (a)
IF NO (2) (a) What were the reasons why you didn't feed him/her as planned? 0			
56. The first time you fed —— did anyone give you any advice or show you what to do?	Yes... No....	1 2	ask (a) ask (b)
IF YES (1) (a) Who was this?	Nurse/midwife.... Other (SPECIFY)..	1 2	} see Q57
IF NO (Code 2 at main) (b) Would you have liked any help or advice?	Yes... No....	1 2	

IF BREAST FED AT ALL (FLAP Code A or B)	BOTTLE FED COMPLETELY (FLAP Code C) DNA	A	go to Q62
57. Did —— have any difficulty sucking the first time you breast fed him/her?	Yes... No....	1 2	ask (a) go to Q58
IF YES (1) (a) What was the difficulty?			
58. Did your nipples become sore or cracked at all?	Yes... No....	1 2	ask (a) & (b) go to Q59
IF YES (1) (a) How long after —— was born did this start?	Immediately..	0	
	No of days...	....	
(b) What did you do about this?			
59. When your milk came in did your breasts become engorged and painful at all?	Yes... No....	1 2	ask (a) see Q60
IF YES (1) (a) What did you do about this?			
IF HAD STITCHES (Q45 Code 1)	OTHERS DNA	A	go to Q61
60. Did your stitches make feeding —— difficult at all?	Yes... No....	1 2	

61. In the first week after ——— was born, did he/she have a bottle of milk or anything else as well as being breast fed?

Yes... 1 ask (a)-(d)
No.... 2 go to Q62

IF YES (1)

(a) How long after he/she was born did he/she first have a bottle (of anything)?

.... hours OR ..... days

DK.... 999

			1ST CHANGE	2ND CHANGE
			(i) No of days	No of days
		....	....	....
(b) After that how often did he/she have a bottle? PROMPT AS NECESSARY	At every feed	1	1	1
	Just during the night	2	2	2
	Not at all	3 see Q62	3 see Q62	3 see Q62
	Other (SPECIFY)...	4	4	4
(c) What was in the bottle? CODE ONE ONLY	Milk	1	1	1
	Dextrose	2	2	2
	Other (SPECIFY) ..	3	3	3

(d) And did he/she have a bottle ——— (answer at (b)) the rest of his/her first week?

Yes... 1 go to Q62
No.... 2 ask (i)

IF NO (2)

(i) For how many days did he/she have a bottle ——— (answer at (b))?

RECORD NUMBER OF DAYS AT TOP OF SECOND COLUMN.

ASK (b)-(d) UNTIL ALL CHANGES IN FIRST WEEK

HAVE BEEN DEALT WITH.

ASK ALL

62. Did you yourself have any (other) problems which caused difficulties with feeding ———?

Yes... 1 ask (a)
No.... 2 go to Q63

IF YES (1)

(a) What was the problem?

(b) What did you do about it?

63. Did ——— have any (other) problems about feeding during the first week after he/she was born?

Yes... 1 ask (a)-(c)
No.... 2 see Q64

IF YES (1)

RING NO	1	2	3
(a) What was the problem?			
(b) How long after ——— was born did this start?	.... days	.... days	.... days
(c) What was done about it?			

	HOME BIRTHS (FLAP Code D) DNA	A	go to Q83
	IN HOSPITAL LESS THAN 12 HOURS (SEE FLAP) DNA	B	go to Q74
64. (a) For the first 24 hours after —— was born was he/she with you ...			
INDIVIDUAL PROMPT	all the time?	1	
	just during the daytime? .	2	
	just at feeding or visiting times?	3	
	at some other times? (SPECIFY)	4	
CODE FIRST THAT APPLIES	or was he/she in an incubator/special care for the whole of the first 24 hours?	9	
	IN HOSPITAL 12 HOURS BUT LESS THAN 24 HOURS (SEE FLAP) DNA	A	see Q74
(b) Was this the same arrangement the rest of the time you were in hospital?	Yes...	1	If Code 9 above go to Q74 Others go to Q65
	No....	2	ask (i)&(ii)

IF NO (2)

(i) When did it change?	day	day	day ....
(ii) After this change was he/she with you ...			
all the time?	1	1	1
just during daytime?	2	2	2
just at feeding or visiting times? ...	3	3	3
at some other times? (SPECIFY)	4	4	4
or was he/she in an incubator/special care all the time?.	9	9	9

ASK (b) AND RECORD ANY FURTHER CHANGES IN THE NEXT TWO COLUMNS

65. After the birth, were you in a room on your own all the time or were you in a room with other mothers?	On own all the time ..	1	go to Q66
	With others	2	see (a)&(b)
IF WITH OTHERS (2) AND BREAST FED AT ALL (FLAP Codes A or B)	OTHERS	A	go to Q66
(a) Were you screened off from other mothers while you were breast feeding?	Screened off	1	ask (b)
	Not screened off .	2	ask (b)
(b) Did you mind being screened off/not screened off?	Yes...	1	
	No....	2	
66. Were most of the other mothers you met in hospital bottle feeding or breast feeding?	Bottle feeding..	1	
	Breast feeding..	2	
SPONTANEOUS	About equal	3	
67. While you were in hospital did you feed —— on demand or did you keep to set feeding times?	On demand	1	go to Q68
	Set feeding times ..	2	ask (a)
IF SET FEEDING TIMES (2) (a) And did you keep exactly to the set feeding times, or not?	Yes...	1	go to Q68
	No....	2	ask (i)
IF NO (2) (i) By how much did you vary from the set feeding times?			
68. And still thinking about feeding times, did most of the other mothers who were breast/bottle feeding do the same as you?	Yes...	1	go to Q69
	No....	2	ask (a)
IF NO (2) (a) What did they do?			

69. How did you feel about the hospital policy on feeding times?

0

70. Thinking about the nurses and midwives in hospital, on the whole, do you think they ...

RUNNING PROMPT	preferred mothers to bottle feed	1
	preferred mothers to breast feed	2
	or showed no preference either way	3
DO NOT PROMPT	DK...	4

71. And thinking about the doctors in hospital, on the whole, do you think they ...

RUNNING PROMPT	preferred mothers to bottle feed	1
	preferred mothers to breast feed	2
	or showed no preference either way	3
DO NOT PROMPT	Saw no hospital doctors	4
	DK...	5

72. While you were in hospital was there always someone available to help you if you had any problems about feeding?

Yes...	1	
No....	2	

73. And while you were in hospital did two people ever give you different advice about the same problem?

Yes...	1	ask (a)
No....	2	go to Q74

IF YES (1)

(a) What was the problem?

(b) What did they say?

74. How satisfied were you with the help and advice about feeding you received in hospital?

On the whole were you ...

RUNNING PROMPT	very satisfied	1	see Q75
	fairly satisfied	2	ask (a)
	rather dissatisfied ..	3	
	or very dissatisfied?.	4	
DO NOT PROMPT	Received no help or advice ..	5	ask (b)

IF NOT VERY SATISFIED (2-4)

(a) In what ways were you not satisfied?

O

SEE Q73

IF RECEIVED NO HELP OR ADVICE (5)

(b) Would you have liked any help or advice about feeding?

Yes...	1	see Q75
No....	2	

FIRST BIRTHS ONLY (Q1 Code 1)

OTHERS DNA	A	go to Q77

75. Were you taught how to prepare a bottle of milk either when you were pregnant or while you were in hospital?

Yes...	1
No....	2

76. And were you taught how to sterilise bottles?

Yes...	1
No....	2

77. While you were in hospital was ——— given ready-to-feed bottles of milk?

Yes...	1	ask (i)
No....	2	ask (a)

IF NO (2)

(a) Was he/she given a bottle made up with powdered milk at all?

Yes...	3	ask (i)
No....	4	go to Q78

IF YES (1) OR (3)

(i) What brand was he/she given?

78. Before you left hospital, were you given a free sample of milk?

Yes...	1	ask (a)
No....	2	go to Q79

IF YES (1)

(a) What brand were you given?

79. Were you given a free gift pack containing things for the baby?

Yes...	1	ask (a)
No....	2	see Q80

IF YES (1)

(a) Did it contain any food for the baby or vouchers that could be exchanged for food?

Food	1	see Q80
Vouchers ...	2	
Neither	3	

ALL WHO TRIED BREAST FEEDING (FLAP CODE A OR B)

		BOTTLE FED COMPLETELY DNA	1	go to Q81
80. Can I just check, when you left hospital were you ...	RUNNING PROMPT	bottle feeding	2	go to Q81
		breast feeding completely	3	ask (a)
		or giving both bottle and breast?	4	

IF BREAST FEEDING (3 OR 4)

(a) Were you shown how to express your milk in case you should need to do so?	Yes...	1	go to Q83
	No....	2	

81. Did you receive any treatment, such as tablets or anything else, to dry up your milk?	Yes...	1	ask (a)
	No....	2	see Q82

IF RECEIVED TREATMENT (1)

(a) What sort of treatment did you have?	Tablets	1	see Q82
	Other (SPECIFY)...	2	

IF STOPPED BREAST FEEDING WHILE IN HOSPITAL (Q80 CODE 2)

	OTHERS	A	go to Q83

82. You told me you stopped breast feeding while you were in hospital

(a) (Can I just check) what were your reasons for stopping?

O

(b) [If you hadn't had any problems] would you like to have continued breast feeding?	Yes...	1	
	No....	2	

83. After you came out of hospital, did a midwife come and visit you at all?	Yes...	1	ask (a)
	No....	2	go to Q85

IF YES (1)

(a) How long after you came out of hospital did she first come?	Same day	1	
	Days after	2	
	2 or more days after	3	

HOME BIRTHS (FLAP Code D) AND OTHERS WHO SAW MIDWIFE (Q83 Code 1)

84. (a) How many times did a midwife come before —— was 10 days old?		Did not come till after 10 days ...	0	
		No of times	....	
(b) Did she/they come at all after —— was 10 days old?		Yes...	A	ask (i)
		No....	0	ask (c)
IF YES (1)				
(i) How many times did she/they come after that?		No of times	....	
(c) Had you seen this midwife/all these midwives while you were pregnant?		Yes...	1	go to Q85
		No....	2	ask (i)
IF NO (2)				
(i) On the whole, do you think the midwife/ midwives preferred you to ...	RUNNING PROMPT	bottle feed	1	
		breast feed	2	
		or showed no preference either way?	3	
	DO NOT PROMPT	DK	4	

			Yes	No/DNA	
85. HOME BIRTHS: After ——— was born [HOSPITAL BIRTHS: When you came back home] did you have any extra help around the house or with the baby, from ...	INDIVIDUAL PROMPT	your husband?.........	1	X	ask (a)
		other relatives?......	2	X	go to Q86
		friends or neighbours?	3	X	
		a home help?..........	4	X	
		none of these?........	5	X	
IF HUSBAND (1) (a) Did your husband have any time off work to help you?		Yes...	1		
		No....	2		
86. Would you have liked any (more) help around the house or with the baby?		Yes...	1		ask (a)
		No....	2		go to Q87
IF YES (1) (a) What things would you have liked help with?					
87. HOME BIRTHS: After ——— was born [HOSPITAL BIRTHS: When ——— first came out of hospital] did you feed him/her on demand or did you try to keep to a regular pattern of feeding?		On demand	1		go to Q88
		Regular pattern	2		ask (a)
IF REGULAR PATTERN (2) (a) About how often did you feed him/her? every .... hours					
(b) If ——— woke up and seemed hungry an hour before the next feed was due what did you do?					

88. Since ——— was born, has a health visitor come to see you at all?		Yes...	1	ask (a)-(c)
		No....	2	go to Q89
IF YES (1) (a) How many times has she been?		No of times ..	....	
(b) How old was ——— when she (first) came to see you?		Days old	....	
(c) Did she talk to you about feeding ——— at all?		Yes...	1	ask (i)
		No....	2	go to Q89
IF YES (1) (i) Do you think she preferred you to ...	RUNNING PROMPT	bottle feed	1	
		breast feed	2	
		or showed no preference either way?	3	
	DO NOT PROMPT	DK	4	
89. Since ——— was born have you taken him/her to a baby clinic at all?		Yes...	1	ask (a)
		No....	2	go to Q90
IF YES (1) (a) How many times have you visited the clinic?		No of times ..	....	

90. [HOME BIRTHS: Since the first ten days after —— was born has he/she been weighted at all?] HOSPITAL BIRTHS: Since he/she came out of hospital has —— been weighed at all?	Yes... No....	1 2	ask (a)-(f) go to Q91
IF YES (1) (a) How many times was he/she been weighed?	No of times ...	....	
(b) When was he/she last weighed? .... day ..... month	DK/can't remember ..	1	
(c) Was he/she weighed at a baby clinic or somewhere else?	Baby clinic .... Somewhere else (SPECIFY)	1 2	ask (i) ask (d)
IF WEIGHED AT BABY CLINIC (1) (i) Do you have a card from the clinic with his/her weight on?	Yes... No....	1 2	ASK TO SEE CARD then ask (d) ask (d)
IF DATE OF LAST WEIGHING GIVEN AT (b) (d) EITHER: RECORD LATEST WEIGHT ON CARD OR ASK: How much did he/she weigh then? ..... lb ...... oz OR .... gm	DK/can't remember ..	1	
(e) INTERVIEWER CHECK:	CLINIC CARD SEEN .... CLINIC CARD NOT SEEN	1 2	
(f) What was he/she wearing when he/she was last weighed?	Naked .... Nappy only .... Nappy and vest. Other (SPECIFY)	1 2 3 4	

91. Since the first week after —— was born have you had any problems about feeding him/her?	Yes... No....	1 2	ask (a)-(d) see Q92

	1	2	3
IF YES (1) (a) What was the problem?			
(b) How old was —— when it started?	.........days OR ....weeks	.........days OR ....weeks	........days OR ....weeks
(c) Did you ask anyone for advice about this? Yes.. No...	1 ask (i) & (ii) 2 go to (d)	1 ask (i) & (ii) 2 go to (d)	1 ask (i) & (ii) 2 go to (d)
IF YES (1) (i) Who did you ask?			
(ii) What did he/ahe advise?			
(d) What did you do about (the problem)?			

IF STOPPED BREAST FEEDING AT HOME (FLAP Code B AND EITHER Q80 Code 3 or 4 OR FLAP Code D)

OTHERS DNA | A | go to self completion schedule and then to Q93

92. You told me you've now stopped breast feeding ——

(a) (Can I just check) what were your reasons for stopping?

0

(b) [If you hadn't had any problems] would you like to have continued breast feeding?

Yes...	1	
No....	2	

GO TO SELF COMPLETION SCHEDULE AND THEN TO Q93

ASK ALL

93. Some mothers have said they would feel embarrassed about breast feeding in front of other people or outside their own homes.

I am going to read out a list of situations and I'd like you to tell me how you think you'd feel in each of them.

Would you feel embarrassed about breast feeding in front of ...	Embarrassed	Not Embarrassed	OFFICE USE
(a) Your husband? (NO HUSBAND DNA ... A) ..	1	2	1
(b) Your own mother?	1	2	2
(c) A girl friend in your own house?	1	2	3
(d) A girl friend in her house?	1	2	4
(e) A girl friend's husband in your house?.	1	2	5
(f) A girl friend's husband in their house?	1	2	6

94. Before your (first) baby was born had you ever seen anyone breast feeding a baby?

Yes...	1	ask (a)&(b)
No....	2	go to Q95

IF YES (1)

(a) Who was this?

Own mother	1	ask (b)
Other relative	2	
Friend	3	
Other (SPECIFY)	4	

(b) How did you feel about it?

0

To finish, may I just ask a few questions about yourself (and your husband)

NO HUSBAND OR SUBSTITUTE DNA A go to Q96

	INFORMANT	HUSBAND (OR SUBSTITUTE)
95. (a) Age last birthday:	.... years	.... years
(b) Age completed full-time education: Under 16.. 16.. 17.. 18.. Over 18..	1 2 3 4 5	1 2 3 4 5
(c) Present working status: Full-time ..... Part-time ..... Not working ...	1 2 3	1 2 3
IF WORKING (1 OR 2) (i) Occupation		
(ii) Industry		
	Employee.........A Self employed....B Manager.............C Foreman/Supervisor..D	Employee ....A Self employed ....B Manager ....C Foreman/supervisor ....D
(iii) Do you work mainly at home? .... or do you go out to work?.	1 2	DNA A
(d) Have you (your husband) ever worked in any part of the Health Service or with children? Yes... No....	1 2	1 2
(e) What was your main job before you had your (first) baby? Never worked .... Same as present.. (i) Occupation	8 9	DNA A
(ii) Industry		
	Employee.........A Self employed....B Manager.............C Foreman/Supervisor..D	
IF NOT WORKING IN PRESENT (Code 3 at (c)) (f) Do you plan to start work within the next four months? Yes.. No...	1 2	DNA A

S 1064

Area No.	Person No.	Week No.
☐☐	☐☐	☐☐

INFANT FEEDING
FOLLOW UP QUESTIONNAIRE

Interviewer's name .... Authorisation number ....

Baby's name ....

Male 1
Female 2

	Day	Month	Year
Baby's date of birth	☐	☐	☐
Date of interview	☐	☐	☐

Baby's age at interview .... weeks .... days

---

Reason for not interviewing

> INTERVIEWER NOTE: BEFORE THE INTERVIEW REFER TO RECALL SHEET AND CODE INTERVIEWER CHECKS AT Q1 AND Q5.

INTERVIEWER CHECK: BREAST FEEDING AT FIRST INTERVIEW (RECALL SHEET A CODE 1) ...A
BOTTLE FEEDING AT FIRST INTERVIEW (RECALL SHEET A CODE 2 OR 3) ...B

1. When I/we talked to you before I think you said you were breast/bottle feeding. Is that correct?	Yes	C	
	No (SPECIFY)	D	

ASK THOSE BREAST FEEDING AT FIRST INTERVIEW (1 Code A)

BOTTLE FEEDING AT FIRST INTERVIEW (Q1 Code B)		A	see check at Q5
2. At the moment, is he/she bottle fed or breast fed?	Bottle fed now	1	ask (a)
	Breast fed now	2	go to Q3
DO NOT PROMPT	Both now	3	go to Q4
IF BOTTLE FED NOW (1) (a) How long did you breast feed ——— for altogether?	No. of weeks	....	

3. Do you ever give ——— a bottle of milk or not?	Yes...	1	go to Q4
	No....	2	see Q5

4. Do you give ——— a bottle of milk at least once a day or less often than that?	At least once a day ..	1	ask (a)&(b)
	Less often	2	ask (b)
IF AT LEAST ONCE A DAY (1) (a) Do you give both bottle and breast at the same feed or at different feeds?	Same feed	4	ask (b)
	Different feeds	5	

(b) Does ——— have a bottle ...		Yes	No
INDIVIDUAL PROMPT	When you don't have enough milk?	1	X
	When someone else feeds him/her?	2	X
	Or for any other reason (SPECIFY)?	3	X

INTERVIEWER CHECK:
GIVING SOLID FOOD AT FIRST INTERVIEW (RECALL SHEET B Code 2)............. A go to Q7
STARTED AND STOPPED GIVING SOLID FOOD AT FIRST INTERVIEW (RECALL SHEET B Code 3).. B ask Q5
NOT GIVING SOLID GOOD AT FIRST INTERVIEW (RECALL SHEET B Code 1) .... C ask Q6

5. When I/we talked to you before I think you said you had tried giving ——— cereal (solid food) but were no longer doing so. Is that correct?	Yes	1	
	No (SPECIFY).	2	

6. Have you tried giving ——— foods such as cereal or rusks, or any other kind of solid food (again)?	Yes...	1	ask (a)-(e)
	No....	2	go to Q7
IF GIVEN SOLID FOOD (1) (a) What was the first food of this type you tried giving him/her (this time)? Type: Brand:			
(b) How did you give it to him/her the first time (this time)? CODE ONE ONLY	Spoon	1	
	Bottle	2	
	Fingers	3	
	Other (SPECIFY).	4	
(c) How old was he/she when you first tried giving him/her this (this time)?	No. of weeks ...	....	
(d) Why did you decide to start giving him/her ——— (answer at (c)) then? 0			
(e) Did anyone advise you to start giving cereal (solid food) then?	Yes...	1	ask (i)
	No....	2	go to Q7
IF YES (1) (i) Who advised you to start giving cereal (solid food)?			

ASK ALL

7. Since we last talked to you, have you had any problems about feeding ——?

Yes...	1	ask (a)-(d)
No....	2	see Q8

IF YES (1)	RING NO. 1	2	3
(a) What was the problem?			
(b) How old was —— when it started?	.......weeks	.......weeks	.... weeks
(c) Did you ask anyone for advice about this? Yes ...... No	1 ask (i)& (ii) 2 ask (d)	1 ask (i)& (ii) 2 ask (d)	1 ask (i)& (ii) 2 ask (d)
IF YES (1) (i) Who did you ask?			
(ii) What did he/she advise?			
(d) What did you do about (the problem)?			

ASK THOSE BREAST FEEDING AT FIRST INTERVIEW BUT BOTTLE FEEDING NOW (Q2 Code 1)

OTHERS	A	go to Q9

You told me you are bottle feeding —— now.

8. (a) What were your reasons for stopping breast feeding?

0

(b) [If you hadn't had any problems] would you like to have continued breast feeding?

Yes...	1
No....	2

ASK ALL

9. (a) When was ——— last weighed?

Day	Month	Year
☐	☐	☐

Not weighed since birth.	1	go to Q10
DK/can't remember	2	

(b) Was he/she weighed at a baby clinic or somewhere else?

Baby clinic	1	ask (i) Code check at (c)
Somewhere else (SPECIFY) ...	2	

IF WEIGHED AT BABY CLINIC (1)

(i) Do you have a card from the clinic with his/her weight on?

Yes...	1	ask (A) Code check at (c)
No....	2	

IF YES (1)

(a) ASK TO SEE CARD

(c) INTERVIEWER CHECK:

CLINIC CARD SEEN	1
CLINIC CARD NOT SEEN	2

(d) IF CLINIC CARD SEEN RECORD LATEST WEIGHT ON CARD
OTHERS ASK How much did he/she weigh then?

.... lb .... oz

OR

.... gm

DK/can't remember	1	go to Q10

(e) What was he/she wearing when he/she was last weighed?

Naked	1
Nappy only	2
Nappy and vest	3
Other (SPECIFY)	4

Mothers sometimes give babies fruit juice and additional vitamins.

10. Do you ever give ——— any fruit juice?

Yes...	1	ask (a)
No....	2	go to Q11

IF GIVES FRUIT JUICE (1)

(a) What sort of fruit juice do you give him/her?

Type:

Brand:

11. Do you give ——— drinks of water?

Yes...	1
No....	2

12. (Apart from fruit juice) do you give ——— any extra vitamins at all?

Yes...	1	ask (a)
No....	2	go to Q13

IF GIVES EXTRA VITAMINS (1)

(a) What brand do you use?

We are interested in exactly how babies of this age are fed.

13. I'd like you to tell me what ——— had yesterday, including anything he/she may have had in between his/her main feeds (water, fruit juice, etc).

START WITH THE FIRST FEED AFTER MIDNIGHT YESTERDAY
ASK FOR EACH FEED (AND FILL IN TABLE):

(a) What time did you feed him/her? (APPROXIMATELY. USE 24 HOUR CLOCK)

(b) What did he/she have?

IF SOLID FOOD

(i) Did you make it or buy it?

IF BOUGHT

(A) What brand did you use?

(c) How did you give it to him/her?

(a)	(b)	SOLID FOOD		(c) Method						
Time	Food	(i) Home made	(A) (OR) Brand	Breast	Bottle	Cup	Spoon	Fingers	Dinky feeder	Other
		1		1	2	3	4	5	6	7
		1		1	2	3	4	5	6	7
		1		1	2	3	4	5	6	7
		1		1	2	3	4	5	6	7
		1		1	2	3	4	5	6	7
		1		1	2	3	4	5	6	7
		1		1	2	3	4	5	6	7
		1		1	2	3	4	5	6	7
		1		1	2	3	4	5	6	7
		1		1	2	3	4	5	6	7
		1		1	2	3	4	5	6	7
		1		1	2	3	4	5	6	7

(a)	(b)	SOLID FOOD		(c) Method						
Time	Food	(i) Home made	(OR) Brand	Breast	Bottle	Cup	Spoon	Fingers	Dinky feeder	Others
		1		1	2	3	4	5	6	7
		1		1	2	3	4	5	6	7
		1		1	2	3	4	5	6	7
		1		1	2	3	4	5	6	7
		1		1	2	3	4	5	6	7
		1		1	2	3	4	5	6	7
		1		1	2	3	4	5	6	7
		1		1	2	3	4	5	6	7
		1		1	2	3	4	5	6	7
		1		1	2	3	4	5	6	7
		1		1	2	3	4	5	6	7
		1		1	2	3	4	5	6	7
		1		1	2	3	4	5	6	7
OFFICE USE	1 2 3 4 5 6 7	8	9 10 11 12	13	14	15	16	17	18	19

And can I just check, did you give ——— anything else (such as water or fruit juice) between his/her main feeds? (INCLUDE IN TABLE)

14. Was yesterday a typical day for ———, as far as his/her diet is concerned?	Yes...	1	see Q15
	No....	2	ask (a)

IF NO (2)

(a) In what way was yesterday not typical?

ASK THOSE WHOSE SERIAL NO. DOES NOT END IN X

SERIAL NO. ENDS IN X DNA A go to Q17

The Department of Health is also interested in how many children mothers are likely to have in the future.

15. Do you intend to have any more children?

Yes... 1 ask (a)
No.... 2 go to Q16

IF YES (1)

(a) How many children do you hope to have altogether?

No. of children.. ....

---

16. Can I just check, since —— was born have you (and your husband) started using any method of contraception?

Yes... 1 ask (a)
No.... 2 go to Q17

IF YES (1)

(a) What methods have you used?

Pill 1
Other 2

IF PILL (1)

(i) How long after —— was born did you start taking the Pill?

No. of weeks ... .

ASK ALL

Introduce classification question.

17. (Can I just check) are you working now?

Full time ..... 1] ask (a)&(b)
Part time ..... 2]
Not working ... 3 go to Q18

IF WORKING

(a) Occupation:

Industry:

Employee .... A
Self-employed ..... B
Manager C
Foreman/supervisor. D

(b) Can I just check, do you work mainly at home, or do you go out to work?

Work at home 1
Go out to work 2

---

18. EXPLAIN THAT IN ORDER TO GET A COMPLETE PICTURE OF HOW BABIES ARE FED IN THE FIRST YEAR WE MAY BE ASKING FOR FURTHER HELP FROM SOME MOTHERS WHO HAVE TAKEN PART IN THE SURVEY SO FAR. THIS WILL PROBABLY INVOLVE FILLING IN A POSTAL QUESTIONNAIRE.

DOES MOTHER AGREE TO FURTHER FOLLOW UP?

YES... 1
NO.... 2

REASON FOR REFUSAL

96. INCOME FROM ALL SOURCES AFTER DEDUCTIONS FOR TAX ETC. OF INFORMANT AND HUSBAND (OR SUBSTITUTE)

SHOW CARD B

	Monthly income		Weekly income	
A	Less than £65	A	Less than £15	1
B	£65, less than £85	B	£15, less than £20	2
C	£85, less than £130	C	£20, less than £30	3
D	£130, less than £170	D	£30, less than £40	4
E	£170, less than £210	E	£40, less than £50	5
F	£210, less than £260	F	£50, less than £60	6
G	£260, less than £340	G	£60, less than £80	7
H	£340, less than £430	H	£80, less than £100	8
I	£430 or more	I	£100 or more	9
			DK	10
			Refused..	11

97. Apart from the things we have already talked about, is there anything else you would like to add about feeding babies in general, or about ——— in particular?

No	1
Yes (SPECIFY)	2

Length of interview:

.... hours .... mins

S1064 Serial No. ☐☐☐☐☐☐

INFANT FEEDING

SELF COMPLETION QUESTIONNAIRE

In this booklet are some things other mothers have said about breast and bottle feeding. Read each one and decide which of the answers at the top of the page best describes what you feel about it. Then put a ring around the number under the answer you have chosen.

OFFICE USE	1	2
	1 2 3	1 2

	Agree strongly	Agree	Neither agree nor disagree	Disagree	Disagree strongly
1. Breast feeding is less trouble than bottle feeding	1	2	3	4	5
2. If you breast feed you can't wear fashionable clothes	1	2	3	4	5
3. Breast fed babies are less likely to get ill than bottle fed babies	1	2	3	4	5
4. The advantage of bottle feeding is you know exactly how much milk your baby has had	1	2	3	4	5
5. Breast fed babies are more content than bottle fed babies	1	2	3	4	5
6. A husband feels left out if his wife breast feeds	1	2	3	4	5
7. Breast feeding feels unpleasant	1	2	3	4	5
8. There is no reason to breast feed in our modern society	1	2	3	4	5
9. Breast feeding is messy	1	2	3	4	5
10. The idea of breast feeding has always appealed to me	1	2	3	4	5
11. I think there is something animal-like about a woman breast feeding	1	2	3	4	5
12. Breast feeding is painful	1	2	3	4	5
13. Breast milk is better for babies than bottle milk	1	2	3	4	5
14. If you breast feed you worry about whether you have enough milk	1	2	3	4	5
15. I like to feel I can go out occasionally and let someone else feed the baby	1	2	3	4	5
16. Babies prefer the breast to the bottle	1	2	3	4	5
17. I wouldn't want to breast feed in front of an older child	1	2	3	4	5
18. Breast feeding is enjoyable for the mother	1	2	3	4	5
19. Breast feeding is old-fashioned	1	2	3	4	5
20. You get your figure back more quickly if you breast feed	1	2	3	4	5
21. Other people are embarrassed to watch a mother breast feeding	1	2	3	4	5
22. Breast feeding limits your social life	1	2	3	4	5
23. You feel much closer to your baby if you breast feed	1	2	3	4	5
24. Bottle feeding is easier than breast feeding	1	2	3	4	5
25. I couldn't bring myself to breast feed	1	2	3	4	5
26. You can bottle feed anywhere but you have to breast feed at home	1	2	3	4	5

Appendix III The maximum likelihood procedure used in the analysis and the results obtained

III.1 Description of the method

Chapter 3 explained the need for a method which would overcome the problems involved in using cross tabulation techniques to examine the relationships between two variables whilst allowing for their interrelationships with other variables, the main problem being that, as additional variables are considered, the cell sizes become too small for meaningful percentages to be calculated.

A further problem is that it is difficult to investigate the possibility of non-additive effects of the various independent variables on the dependent variable, that is, that two or more variables might interact such that their joint effect on the independent variable is not equal to the sum of their independent effects. In order to overcome these problems, a procedure based on the method described by Dyke and Patterson[1] using the GLIM (Generalised Linear Interactive Modelling) program[2] was used to analyse some of the results of the survey.

The method involves fitting a model to the data (presented in the form of a multiway table of proportions), and provides maximum likelihood estimates of the unknown parameters in the model being fitted. A logit transformation ($\log \frac{p}{1-p}$) of the proportions was used, and a binomial distribution of errors was assumed.

A main effects model was first fitted to the data under consideration. This model assumes that all the independent variables exert independent and therefore additive effects on the dependent variable. GLIM produces estimates of the proportions expected in each cell of the table if the model were a perfect fit. The adequacy of fit of the model is expressed in terms of the deviance, a transformation of the differences between the observed and expected values in the table, which is analagous to X^2 and has a similar distribution. If a main effects model did not fit the data adequately, models with interaction terms were tried.

The size of the parameter estimates in the model in relation to their standard error indicates the significance of the contribution of each variable to the model. The size of the parameter estimates in relation to one another indicates the relative importance of the different variables in the model.

III.2 Results

For each use of the above procedure mentioned in the main text of the report the following tables show the observed proportions (O) in each cell of the original multiway tables of proportions, the cell size (N), the model fitted, the deviance and degrees of freedom from which the goodness of fit of the model is determined, and estimates of the expected proportions (E) in each cell of the table if the model were a perfect fit.

---

[1] G V Dyke and H D Patterson (1952) Analysis of factorial arrangements when the data are proportions *Biometrics 8*, 1-12.

[2] Developed by the Working Party of Statistical Computing of the Royal Statistical Society (1975) *Applied Statistics 24(2)* 259-261.

Table III.1 Incidence of breast feeding for first births

Reference in text: p15
Model fitted: main effects
Deviance: 57.7
Degrees of freedom: 52
Goodness of fit: p > .1

Region	Social class	Age finished full time education	Mother's age											
			under 20			20 - 24			25 - 29			30 and over		
			O %	N	E %	O %	N	E %	O %	N	E %	O %	N	E %
London and South East	Non-manual	Over 16	-	*0*	-	93	*15*	88	97	*35*	90	90	*11*	88
		Up to 16	48	*2*	64	79	*13*	77	76	*26*	81	85	*8*	77
	Manual	Over 16	65	*2*	67	79	*11*	79	87	*8*	83	100	*2*	79
		Up to 16	41	*15*	48	62	*46*	63	64	*27*	69	61	*3*	63
South West and Wales	Non-manual	Over 16	100	*1*	70	74	*2*	81	93	*8*	85	74	*2*	81
		Up to 16	54	*1*	51	45	*5*	66	60	*6*	72	100	*1*	66
	Manual	Over 16	39	*3*	54	75	*7*	69	50	*3*	74	0	*1*	69
		Up to 16	37	*9*	35	55	*16*	51	72	*10*	57	48	*2*	50
Midlands and East Anglia	Non-manual	Over 16	-	*0*	-	87	*5*	81	84	*11*	85	67	*5*	81
		Up to 16	74	*2*	51	50	*7*	66	65	*11*	72	45	*5*	66
	Manual	Over 16	0	*1*	55	53	*12*	69	56	*4*	74	0	*1*	69
		Up to 16	44	*15*	35	60	*37*	51	56	*19*	57	90	*5*	50
North	Non-manual	Over 16	-	*0*	-	81	*6*	79	89	*20*	83	85	*4*	79
		Up to 16	21	*3*	47	73	*15*	63	64	*18*	68	60	*6*	63
	Manual	Over 16	65	*2*	51	75	*7*	66	70	*6*	71	26	*2*	66
		Up to 16	34	*25*	32	42	*48*	47	55	*31*	53	50	*8*	47

Table III.2 Incidence of breast feeding for whole sample

Reference in text: p15
Model fitted: main effects
Deviance: 32.6
Degrees of freedom: 55
Goodness of fit: p > .1

Age finished full time education	Social class	London and South East			South West and Wales			Midlands and East Anglia			North		
		O %	N	E %	O %	N	E %	O %	N	E %	O %	N	E %
First births													
Over 18	Non-manual	95	*33*	93	83	*7*	91	88	*10*	90	90	*17*	87
	Manual	100	*8*	89	50	*2*	86	67	*3*	85	67	*5*	80
17 - 18	Non-manual	94	*28*	84	91	*6*	80	74	*11*	79	83	*13*	73
	Manual	74	*15*	76	57	*12*	70	52	*14*	68	65	*11*	62
16	Non-manual	75	*30*	78	55	*5*	73	58	*15*	71	66	*20*	65
	Manual	62	*31*	67	52	*13*	61	64	*26*	59	58	*30*	52
Under 16	Non-manual	79	*19*	70	57	*8*	64	58	*11*	62	62	*21*	54
	Manual	57	*60*	58	57	*25*	51	54	*51*	49	39	*82*	41
Second and subsequent births													
Over 18	Non-manual	86	*29*	86	80	*10*	82	70	*10*	80	72	*18*	75
	Manual	100	*4*	76	100	*1*	72	100	*3*	70	75	*4*	64
17 - 18	Non-manual	71	*28*	70	71	*7*	64	70	*10*	62	50	*18*	54
	Manual	58	*12*	58	50	*8*	51	42	*12*	48	50	*6*	41
16	Non-manual	63	*35*	60	55	*9*	54	44	*9*	51	37	*24*	44
	Manual	45	*29*	47	44	*16*	41	44	*25*	38	41	*32*	32
Under 16	Non-manual	41	*34*	50	50	*8*	44	46	*13*	41	35	*37*	34
	Manual	36	*90*	37	35	*43*	31	31	*88*	29	20	*141*	23

Table III.3 Prevalence of breast feeding at six weeks

Reference in text: p20
Model fitted: main effects
Deviance: 41.1
Degrees of freedom: 55
Goodness of fit: p > .1

Age finished full time education	Social class	London and South East			South West and Wales			Midlands and East Anglia			North		
		O %	N	E %	O %	N	E %	O %	N	E %	O %	N	E %
First births													
Over 18	Non-manual	76	*33*	72	59	*7*	71	60	*10*	71	70	*17*	60
	Manual	65	*8*	55	22	*2*	53	35	*3*	53	44	*5*	41
17 - 18	Non-manual	47	*28*	47	36	*6*	45	48	*11*	45	39	*13*	34
	Manual	26	*15*	29	48	*12*	28	16	*14*	28	30	*11*	19
16	Non-manual	38	*30*	42	43	*5*	40	39	*15*	40	28	*20*	29
	Manual	25	*31*	25	4	*13*	24	22	*26*	24	21	*30*	16
Under 16	Non-manual	44	*19*	28	22	*8*	26	32	*11*	27	16	*21*	18
	Manual	14	*60*	16	16	*25*	14	17	*51*	15	5	*82*	10
Second and subsequent births													
Over 18	Non-manual	69	*29*	66	60	*10*	64	60	*10*	65	50	*18*	53
	Manual	50	*4*	48	100	*1*	46	33	*3*	46	25	*4*	34
17-18	Non-manual	50	*28*	40	29	*7*	38	30	*10*	38	22	*18*	28
	Manual	25	*12*	24	12	*8*	22	0	*12*	22	33	*6*	15
16	Non-manual	31	*35*	35	33	*9*	33	44	*9*	33	12	*24*	23
	Manual	24	*29*	20	25	*16*	19	28	*25*	19	16	*32*	13
Under 16	Non-manual	12	*34*	23	25	*8*	21	31	*13*	22	19	*37*	14
	Manual	9	*90*	12	16	*43*	11	14	*88*	11	7	*141*	7

Table III.4 Proportion of mothers of first babies who planned to breast feed (social and demographic characteristics)

Reference in text: p29
Model fitted: main effects
Deviance: 55.1
Degrees of freedom: 52
Goodness of fit: $p > .1$

Region	Social class	Age finished full time education	Mother's age under 20 O %	*N*	E %	20 - 24 O %	*N*	E %	25 - 29 O %	*N*	E %	30 and over O %	*N*	E %
London and South East	Non-manual	Over 16	-	*0*	-	88	*26*	83	98	*62*	92	89	*19*	90
		Up to 16	75	*4*	65	74	*23*	77	84	*45*	83	86	*14*	81
	Manual	Over 16	67	*3*	69	68	*19*	79	87	*15*	85	100	*4*	83
		Up to 16	41	*27*	50	64	*81*	63	68	*47*	72	60	*5*	69
South West and Wales	Non-manual	Over 16	100	*1*	73	75	*4*	83	93	*14*	88	75	*4*	86
		Up to 16	50	*2*	55	56	*9*	68	80	*10*	76	100	*2*	74
	Manual	Over 16	40	*5*	59	75	*12*	71	67	*6*	79	0	*2*	78
		Up to 16	50	*16*	39	52	*29*	53	72	*18*	62	50	*4*	59
Midlands and East Anglia	Non-manual	Over 16	-	*0*	-	88	*8*	81	89	*19*	86	67	*9*	85
		Up to 16	75	*4*	53	50	*12*	66	65	*20*	74	56	*9*	71
	Manual	Over 16	0	*2*	56	67	*21*	69	57	*7*	77	0	*1*	74
		Up to 16	33	*27*	37	58	*65*	50	65	*34*	60	89	*9*	57
North	Non-manual	Over 16	-	*0*	-	80	*10*	81	92	*36*	87	100	*7*	85
		Up to 16	20	*5*	53	73	*26*	66	64	*31*	74	70	*10*	72
	Manual	Over 16	67	*3*	57	75	*12*	70	70	*10*	77	100	*4*	74
		Up to 16	45	*44*	37	48	*84*	51	56	*55*	60	57	*14*	57

Table III.5 Proportion of mothers of first babies who planned to breast feed (influence of family and friends)

Reference in test: p45
Model fitted: main effects
Deviance: 46.6
Degree of freedom: 45
Goodness of fit: p > .1

Other people's views	Own mother's views	Husband's views								
		Pro breast feeding			Other/no views			Pro bottle feeding		
		O %	N	E %	O %	N	E %	O %	N	E %
Most friends breast feed/half breast feed, half bottle feed										
Pro breast feeding	Pro breast feeding	97	*91*	97	89	*28*	91	50	*2*	70
	Other/no views	94	*68*	92	80	*45*	75	0	*2*	41
	Pro bottle feeding	77	*13*	86	75	*4*	63	0	*2*	28
Other/no views	Pro breast feeding	88	*98*	93	74	*82*	78	60	*10*	46
	Other/no views	84	*119*	80	52	*148*	52	23	*31*	20
	Pro bottle feeding	100	*4*	69	38	*21*	38	22	*9*	12
Pro bottle feeding	Pro breast feeding	89	*18*	88	78	*18*	66	25	*4*	31
	Other/no views	81	*16*	68	26	*27*	37	0	*7*	12
	Pro bottle feeding	20	*5*	54	33	*6*	25	0	*4*	7
Most friends bottle feed										
Pro breast feeding	Pro breast feeding	89	*18*	94	92	*12*	82	-	*0*	-
	Other/no views	76	*21*	83	58	*12*	57	33	*3*	24
	Pro bottle feeding	57	*7*	73	50	*6*	43	50	*2*	14
Other/no views	Pro breast feeding	95	*19*	85	73	*15*	62	0	*1*	27
	Other/no fiews	65	*43*	64	28	*102*	33	6	*17*	10
	Pro bottle feeding	67	*9*	50	22	*23*	21	0	*8*	6
Pro bottle feeding	Pro breast feeding	100	*2*	76	80	*5*	47	50	*2*	16
	Other/no views	33	*9*	49	23	*17*	21	0	*2*	6
	Pro bottle feeding	0	*4*	34	20	*10*	13	0	*1*	3

Table III.6 Proportion of breast feeding mothers still breast feeding at six weeks

Reference in text: p62
Model fitted: main effects
Deviance: 56.7
Degrees of freedom: 59
Goodness of fit: $p > .1$

Age finished full time education	Social class	London and South East O %	N	E %	South West and Wales O %	N	E %	Midlands and East Anglia O %	N	E %	North O %	N	O %
First births													
Over 18	Non-manual	80	*31*	75	70	*6*	75	68	*9*	75	78	*15*	75
	Manual	65	*8*	63	50	*1*	63	52	*2*	63	68	*3*	63
17 - 18	Non-manual	50	*26*	54	40	*6*	54	65	*8*	54	47	*11*	54
	Manual	35	*11*	40	84	*7*	40	37	*6*	40	46	*7*	40
16	Non-manual	51	*22*	54	79	*3*	54	68	*9*	54	44	*13*	54
	Manual	41	*19*	40	7	*7*	40	35	*16*	40	36	*18*	40
Under 16	Non-manual	56	*15*	44	39	*5*	44	56	*6*	44	26	*13*	44
	Manual	25	*34*	30	28	*14*	30	30	*28*	30	13	*32*	30
Second and subsequent births													
Over 18	Non-manual	80	*25*	75	75	*8*	75	86	*7*	75	69	*13*	75
	Manual	50	*4*	63	100	*1*	63	33	*3*	33	33	*3*	63
17 - 18	Non-manual	70	*20*	54	40	*5*	54	43	*7*	54	44	*9*	54
	Manual	43	*7*	40	25	*4*	40	0	*5*	40	67	*3*	40
16	Non-manual	50	*22*	54	60	*5*	54	100	*4*	54	33	*9*	54
	Manual	54	*13*	40	57	*7*	40	64	*11*	40	38	*13*	40
Under 16	Non-manual	29	*14*	44	50	*4*	44	67	*6*	44	54	*13*	44
	Manual	25	*32*	30	47	*15*	30	44	*27*	30	36	*28*	30

Table III.7 Proportion of breast feeding mothers still breast feeding at four months

Reference in text: p62
Model fitted: main effects
Deviance: 15.6
Degrees of freedom: 11
Goodness of fit: p>.1

Age finished full time education	Social class	First births			Later births		
		O %	*N*	E %	O %	*N*	E %
Over 18	Non-manual	47	*61*	45	43	*53*	45
	Manual	40	*15*	24	0	*11*	24
17 - 18	Non-manual	30	*51*	40	40	*41*	40
	Manual	28	*32*	21	32	*19*	21
16	Non-manual	35	*47*	34	37	*40*	34
	Manual	16	*60*	17	12	*44*	17
Under 16	Non-manual	25	*39*	27	35	*37*	27
	Manual	10	*108*	13	14	*102*	13

Table III.8 Proportion of breast feeding mothers still breast feeding at six weeks (taking account of previous experience)

Reference in text: p63
Model fitted: main effects
Deviance: 18.4
Degrees of freedom: 17
Goodness of fit: p >.1

Age finished full time education	Social class	First births			Later births					
					Previously breast fed for 6 weeks			Not previously breast fed for 6 weeks		
		O %	*N*	E %	O %	*N*	E %	O %	*N*	E %
Over 18	Non-manual	77	*61*	**72**	92	*36*	**88**	47	*17*	**61**
	Manual	62	*15*	**58**	67	*6*	**81**	20	*5*	**46**
17 - 18	Non-manual	50	*51*	**52**	81	*19*	**76**	36	*22*	**40**
	Manual	48	*32*	**37**	42	*12*	**64**	15	*7*	**26**
16	Non-manual	54	*47*	**53**	59	*17*	**77**	48	*23*	**41**
	Manual	34	*60*	**38**	72	*18*	**65**	38	*25*	**28**
Under 16	Non-manual	44	*39*	**42**	74	*15*	**68**	24	*21*	**31**
	Manual	23	*108*	**28**	61	*38*	**54**	23	*61*	**19**

Table III.9 Proportion of breast feeding mothers still breast feeding at four months (taking account of previous experience)

Reference in text: p65
Model fitted: interaction between social class and not having
previously breast fed for longer than six weeks
Deviance: 5.0
Degrees of freedom: 5
Goodness of fit: p>.1

Age finished full time education	Social class	First births			Later births					
					Previously breast fed for 6 weeks			Not previously breast fed for 6 weeks		
		O %	*N*	E %	O %	*N*	E %	O %	*N*	E %
Over 16	Non-manual	34	*112*	34	51	*54*	57	32	*39*	32
	Manual	28	*47*	23	35	*18*	36	8	*12*	3
Up to 16	Non-manual	23	*86*	23	56	*32*	44	56	*44*	22
	Manual	13	*169*	15	25	*55*	24	1	*86*	6

Table III.10 Proportion of mothers first breast feeding within eight hours by events of labour and delivery

Reference in text: p77
Model fitted: main effects
Deviance: 33.7
Degrees of freedom: 44
Goodness of fit: p> .1

Admission to special care	Type of delivery	Analgesia/ anaesthesia	Initiation of labour								
			Spontaneous			Accelerated			Induced		
			O %	*N*	E %	O %	*N*	E %	O %	*N*	E %
No special care within first four hours	Normal	Pethidine	65	*225*	63	45	*58*	48	46	*112*	48
		Epidural	55	*6*	75	70	*10*	62	83	*7*	61
		Inhalation analgesia	78	*66*	78	63	*9*	66	57	*14*	65
		Nothing	71	*35*	70	23	*4*	55	67	*9*	54
	Assisted	Pethidine	40	*17*	44	41	*15*	30	23	*12*	30
		Epidural	10	*6*	57	64	*3*	42	47	*7*	42
		Inhalation analgesia	84	*4*	62	71	*2*	46	0	*1*	46
		Nothing	100	*1*	50	100	*1*	35	50	*1*	35
	Caesarean		15	*4*	21	15	*4*	12	16	*10*	12
Special care within four hours	Normal	Pethidine	17	*19*	14	0	*11*	8	10	*16*	8
		Epidural	0	*0*	0	0	*2*	13	100	*1*	13
		Inhalation analgesia	37	*5*	25	52	*2*	16	0	*2*	16
		Nothing	0	*5*	18	0	*2*	11	0	*2*	10
	Assisted	Pethidine	5	*11*	7	5	*11*	4	10	*6*	4
		Epidural	0	*1*	12	0	*1*	6	18	*6*	6
		Inhalation analgesia	0	*2*	13	0	*1*	8	0	*2*	8
		Nothing	0	*1*	9	0	*1*	5	0	*1*	5
	Caesarean		0	*6*	2	0	*1*	2	0	*9*	1

Table III.11 Proportion of mothers who stopped breast feeding within two weeks by events of labour and delivery (excluding Caesarean births and admission to SCBU)

Reference in text: p79
No model fitted

First breast fed	Analgesia	Spontaneous labour				Induced/accelerated labour			
		Normal delivery		Assisted delivery		Normal delivery		Assisted delivery	
		%	*N*	%	*N*	%	*N*	%	*N*
Within four hours	Pethidine	11	*60*	28	*4*	15	*42*	0	*3*
	Inhalation analgesia	14	*33*	0	*2*	0	*7*	0	*1*
	Epidural/ nothing	17	*17*	0	*1*	5	*13*	18	*3*
Over four hours up to twelve hours	Pethidine	13	*122*	49	*8*	27	*81*	26	*11*
	Inhalation analgesia	5	*29*	0	*1*	15	*10*	0	*1*
	Epidural/ nothing	6	*16*	0	*1*	4	*11*	39	*3*
Over twelve hours	Pethidine	13	*43*	36	*4*	17	*46*	24	*12*
	Inhalation analgesia	26	*4*	0	*1*	17	*6*	35	*2*
	Epidural/ nothing	22	*8*	12	*5*	37	*7*	34	*5*

Appendix IV Antenatal care

Chapter 6 described the antenatal care received by mothers of first babies. This appendix presents similar information for the total sample, showing first and later births separately since their antenatal care may differ. The reader is referred to Chapter 6 for descriptions of the categories shown in the tables.

Reasons given for not receiving antenatal care ranged from being too embarrassed to face an examination to not acknowledging the pregnancy.

IV.1 Attendance at antenatal clinics

Table IV.1 Place attended for antenatal care

	Total sample	First births	Later births
	%	%	%
Hospital	82	86	80
GP's surgery or clinic	82	82	82
Community clinic	8	8	8
Private care/abroad during pregnancy	2	1	2
No antenatal care	(4)	(1)	(3)
Base: total sample	*1544*	*711*	*833*

( ) numbers, not percentages

Percentages do not add to 100 as many mothers received care at more than one place

Table IV.2 Whether mothers were asked about their plans or had discussions about feeding

	Total sample	First births	Later births
	%	%	%
Not asked about plans: no discussion about feeding	35	28	42
Asked about plans: no discussion about feeding	41	43	39
Not asked about plans: discussion about feeding	2	2	2
Asked about plans: discussion about feeding	22	27	17
	100	100	100
Base: mothers who received antenatal care	*1540*	*710*	*830*

IV.2 Antenatal home visits

Table IV.3 Home visits by midwives and health visitors

	Total sample	First births	Later births
	%	%	%
Visited by midwife	32	21	41
Visited by health visitor	5	4	6
No home visits	64	75	55
Base: total sample	*1544*	*711*	*833*

Percentages do not add to 100 as some mothers were visited by both

Midwives' visits were generally to make arrangements for the confinement, to check the suitability of the home for a home confinement or an early discharge, or, in a few cases, to carry out antenatal examinations in the home. The few visits made by health visitors were to make contact with the expectant mother and tell her about local facilities concerned with infant welfare.

IV.3 Attendance at antenatal classes

Table IV.4 Attendance at antenatal classes

	Total sample	First births	Later births
	%	%	%
Attended antenatal classes	33	61	10
Did not attend classes	67	39	90
	100	100	100
Base: total sample	*1544*	*711*	*833*

Table IV.5 Whether husband attended antenatal classes

	Total sample	First births	Later births
	%	%	%
Husband attended (at least some classes)	30	33	17
Husband did not attend	68	65	87
No husband	2	2	-
	100	100	100
Base: mothers who attended classes	*516*	*431*	*85*

Table IV.6 Whether classes included talks or discussions on feeding

	Total sample	First births	Later births
	%	%	%
Classes included talks or discussions on feeding	83	85	73
No talks or discussions on feeding	17	15	27
	100	100	100
Base: mothers who attended antenatal classes	*516*	*431*	*85*

Appendix V Events surrounding birth and hospital practices

Chapter 11 gave information about the events around the time of birth for mothers who had breast fed. This appendix presents similar information for the total sample. The reader is referred to Chapter 11 for definitions of the terms used to describe the categories in the tables.

V.1 Events surrounding the birth

Table V.1 Onset and progress of labour

	%
Spontaneous onset of labour without intervention	52
Spontaneous onset of labour with acceleration by drip	18
Induction of labour by drip, with or without ARM	25
Induction of labour by tablets and ARM	2
Elective Caesarean Section	3
	100
Base: total sample	*1544*

Table V.2 Analgesia/anaesthesia during labour

	%
Pethidine or similar	63
Gas and air	56
Epidural block	8
Other medicine or tablets	2
General anaesthetic	6
Nothing	9
Base: total sample	*1544*

Percentages do not add to 100 as some mothers had more than one type

Table V.3 Type of delivery

	%
Normal delivery	81
Forceps or vacuum extraction	13
Caesarean Section	6
	100
Base: total sample	*1544*

Table V.4 Whether husband was present during labour and at delivery

	%
Husband present during labour and at delivery	36
Husband present during labour only	26
Husband not present	28
DNA - Caesarean delivery	6
No husband	4
	100
Base: total sample	*1544*

Table V.5 Whether mother had stitches

	%
Stitches for episiotomy or tear	69
Caesarean delivery	6
No stitches	24
	100
Base: total sample	*1544*

Table V.6 Birthweight by social class

	Total sample	Social class				
		I	II	IIInm	IIIm	IV&V
Under 2000g	1	1	1	1	1	2
2000 - 2499g	5	2	5	3	5	5
2500 - 2999g	18	15	16	13	18	20
3000 - 3499g	42	40	42	42	44	39
3500 - 3999g	26	31	27	30	25	26
4000g and over	9	11	9	11	8	9
	100	100	100	100	100	100
Mean	3315g	3394g	3337g	3411g	3300g	3290g
Base: total sample	*1544*[†]	*116*	*284*	*150*	*639*	*253*

[†] *Includes mothers whose social class was not established*

Table V.7 How soon mothers held the baby

	%
Immediately	46
Within ½ hour	23
After ½ hour up to 1 hour	4
After 1 hour up to 8 hours	15
After 8 hours up to 24 hours	11
After 24 hours	1
	100
Base: total sample	*1544*

V.2 Need for special care

Twenty three per cent of all babies required care in a special care baby unit; nineteen per cent entered a special care unit with four hours of birth and four per cent after that time

Table V.8 Reasons given by mothers for baby requiring special care

	%
Respiratory distress	33
Low birthweight/ prematurity	29
Jaundice	19
Other problems	20
Observation after assisted delivery - nothing wrong	20
Base: babies who had special care	*362*

Percentages do not add to 100 as some babies had more than one problem

Table V.9 Length of time babies were in special care unit

	%
4 hours or less	6
5 - 12 hours	7
13 - 24 hours	27
25 hours up to 3 days	22
Over 3 days up to 1 week	14
Over 1 week	25
	100
Base: babies who had special care	*362*

V.3 Hospital practices

Table V.10 Place of birth by whether first or later birth

	Total sample	First births	Later births
	%	%	%
Home birth	4	1	7
Hospital birth	96	99	93
	100	100	100
Base: total sample	*1544*	*711*	*833*

Table V.11 Length of stay in hospital by whether first or later birth

	Total sample	First births	Later births
	%	%	%
Less than 2 days	2	0	4
2 days	17	6	27
3 days	5	3	8
4 days	6	4	7
5 days	10	10	9
6 days	12	13	11
7 days	12	17	8
8 days	11	15	7
9 days	6	9	4
10 days	13	17	10
Over 10 days	6	7	5
	100	100	100
Base: hospital births	*1491*	*707*	*783*

Table V.12 Extent to which babies were with their mothers during the first week

	Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7
	%	%	%	%	%	%	%
Baby with mother all the time	3	12	20	27	29	30	30
Baby with mother during daytime only	47	53	50	46	44	43	44
Baby with mother part of daytime only	30	11	17	15	14	14	14
Baby in nursery/special care all the time	19	14	13	12	12	12	12
	100	100	100	100	100	100	100
Base: mothers still in hospital on each day	*1481*	*1462*	*1212*	*1132*	*1048*	*905*	*729*

Table V.13 Whether mothers were taught how to sterilise bottles and make up a bottle of milk

Taught how to sterilise bottles	58%
Taught how to make up a bottle of milk	56%
Base: hospital births	*1491*

Table V.14 Suppression of lactation reported by mothers bottle feeding on discharge from hospital

	%
Tablets or injection (usually stilboestrol)	38
Epsom salts	5
Oral contraceptive	2
No treatment (apart from binder)	55
	100
Base: mothers bottle feeding on discharge from hospital	*868*

Table V.15 Whether mothers were given free samples of milk and gift packs on leaving hospital

Given free sample of milk	50%
Given gift pack containing food or vouchers to be exchanged for food	56%
Given gift pack not containing food or vouchers	15%
Base: hospital births	*1491*

Appendix VI Infant feeding at home

The information presented in this appendix complements that presented in Chapter 13, relating to mothers whose babies were born at home or who had been discharged from hospital.

Table VI.1 Proportion of mothers visited by a midwife by length of stay in hospital

Stay in hospital:	% visited by midwife	*Base:*
2 days or less	100%	*279*
3 - 6 days	95%	*482*
7 - 9 days	79%	*440*
10 or more days	43%	*289*
All hospital births	81%	*1491*

Table VI.2 How soon midwife visited by length of stay in hospital

	Total visited by a midwife on discharge	Length of stay 2 days or less	3 - 6 days	7 - 9 days	10 days or more
	%	%	%	%	%
Day of discharge	21	57	14	6	8
Next day	67	37	78	77	67
Two or more days later	12	6	8	17	24
	100	100	100	100	100
Base: mothers visited by a midwife on discharge from hospital	*1209*	*279*	*456*	*348*	*125*

Table VI.3 Frequency of midwife's visits in the first ten days

	%
Every day mother was at home	62
Less than every day mother was at home	12
No visits/mother in hospital 10 days or more	26
	100
Base: total sample	*1544*

Table VI.4 Number of visits by midwife after the first ten days

	%
None	60
1	15
2	8
3	5
4	4
5 or more	7
	100
Base: total sample	*1544*

Table VI.5 Age of baby when health visitor first visited

	%
10 days or under	15
11 - 14 days	53
15 - 21 days	20
Over three weeks	7
Not visited by six weeks	5
	100
Base: total sample	*1544*

Table VI.6 Number of visits made by health visitor in the first six weeks

	%
None	5
1	44
2	26
3	11
4	7
5 or more	7
	100
Base: total sample	*1544*

Table VI.7 Extra help at home

Received help from:	%
Husband	81
Other relatives	61
Friends	18
Home help	2
Nanny/private help	1
No extra help received	4
Base: total sample	*1544*

Percentages do not add to 100 as some mothers received help from more than one source

Table VI.8 Number of visits made to a baby clinic in first six weeks by whether first or later birth

	Total sample	First births	Later births
	%	%	%
Not visited a clinic	22	14	27
1 visit	24	23	25
2 visits	22	22	22
3 visits	17	20	15
4 or more visits	15	21	11
	100	100	100
Base: total sample	*1544*	*711*	*833*

Table VI.9 Number of times baby had been weighed in first six weeks by whether first or later birth

	Total sample	first births	first births
	%	%	%
Not weighed since discharge from hospital/since 10 days	6	3	9
Weighed once	21	18	24
Weighed twice	26	24	28
Weighed three times	22	24	21
Weighed four or more times	24	31	18
	100	100	100
Base: total sample	*1544*	*711*	*833*

Table VI.10 Where baby was weighed on most recent occasion

	%
Baby clinic	73
By mother at home	7
GP's surgery/hospital	6
By midwife at home	4
Chemist's shop	3
Not weighed since discharge from hospital/10 days old	6
	100
Base: total sample	*1544*

Table VI.11 What baby was wearing when last weighed

	%
Fully clothed	51
Nappy and/or vest only	17
Naked	26
Not weighed since discharge from hospital/10 days old	6
	100
Base: total sample	*1544*

'Fully clothed' ranged from nappy, vest and stretch towelling suit to outdoor clothing plus a shawl. Information was collected about the babies' weights with the intention of looking at them in relation to method of feeding. We collected details of the babies' clothing when weighed in order to adjust the weights to arrive at the naked weight of each baby. However, the proportion of babies weighed fully clothed (and the variety of clothing worn), and the proportion not weighed sufficiently recently for the weight to be of use were much greater than we had anticipated. It was therefore decided that the information about babies' weights was not sufficiently reliable for any analysis to be carried out. It was noted that the practice of weighing babies fully clothed was more common when the baby was weighed at a clinic than anywhere else except a chemist's shop; 58 per cent of babies weighed at a clinic were weighed fully clothed. It appeared that fluctuations in the amount of clothing worn on different occasions, depending on the weather, could be as great as the expected weekly weight gain of a six week old baby. Some mothers said that when they returned home they removed the baby's clothes and weighed them to arrive at at a more accurate estimate of the baby's weight.

Breast feeding and the Pill

At the follow-up interviews at four months married women were asked whether they were using any form of contraception and, if so, whether they were taking an oral contraceptive (the Pill). They were then asked how long after the baby was born they had started taking the Pill. Thus we were able to establish whether they were taking the Pill whilst breast feeding.

Table VI.12 Use of contraception at four months by method of feeding at four months

		Breast feeding	Bottle feeding
	%	%	%
No contraception used	12	20	10
Taking the Pill	51	19	56
Using other method of contraception	37	61	34
	100	100	100
Base†: married women	*1443*	*204*	*1239*

† *See note on reweighting 1.8 p5.*

Of the married women taking the Pill at four months only five per cent were still breast feeding compared with 23 per cent still breast feeding amongst other mothers.

Table VI.13 Length of time after birth before mothers started taking the Pill

	%
Within 1 week	3
After 1 week up to 4 weeks	8
After 4 weeks up to 6 weeks	26
After 6 weeks up to 8 weeks	34
After 8 weeks up to 3 months	25
After 3 months up to 4 months	4
	100
Base : married women taking the Pill at four months	*737*

† *See note on reweighting 1.8 p5.*

At six weeks 13 per cent of married women who were still breast feeding had started taking the Pill. At four months 19 per cent of married women who were still breast feeding were taking the Pill; the proportion of women taking the Pill having increased, but the proportion still breast feeding having decreased. By four months a total of 6 per cent of all married women had taken the Pill whilst still breast feeding.

Most commonly prescribed brands of oral contraceptive are likely to cause lactation to cease. Mothers who wish to take the Pill whilst continuing to breast feed are usually prescribed a special low oestrogen preparation that should not affect lactation. However, mothers were not asked about the type of oral contraceptive they were using and so we cannot give information about this in relation to breast feeding.

Reproduced in England for Her Majesty's Stationery Office by Hobbs the Printers of Southampton
(29) Dd496295 K8 1/78 G3927

SOUTHAMPTON UNIVERSITY LIBRARY

Date of Issue

HER MAJESTY'S STATIONERY OFFICE

Government Bookshops

49 High Holborn, London WC1V 6HB
13a Castle Street, Edinburgh EH2 3AR
41 The Hayes, Cardiff CF1 1JW
Brazennose Street, Manchester M60 8AS
Southey House, Wine Street, Bristol BS1 2BQ
258 Broad Street, Birmingham B1 2HE
80 Chichester Street, Belfast BT1 4JY

Government Publications are also available through booksellers

ISBN 0 11 700824 9